

BellSouth Telecommunications, Inc.

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'(3 October 6, 2000

**Guy M. Hicks** General Counsel

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VIA HAND DELIVERY

David Waddell, Executive Secretary Tennessee Regulatory Authority 460 James Robertson Parkway Nashville, TN 37238

> Re: All Telephone Companies Tariff Filings Regarding Reclassification Of Pay Telephone Service As Required By Federal Communications Commission (FCC) Docket 96-128 Docket No. 97-00409

Dear Mr. Waddell:

Enclosed are the original and thirteen copies of BellSouth's Rebuttal Testimony in this matter. Testimony is being provided by

Sandy E. Sanders D. Daonne Caldwell William E. Taylor.

Copies of the enclosed are being provided to counsel of record for all parties.

Very-truly yours,

Guy M. Hicks

GMH:ch Enclosure



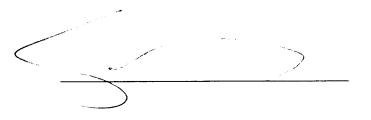
#### CERTIFICATE OF SERVICE

I hereby certify that on October 6, 2000, a copy of the foregoing document was served on the parties of record, as follows:

[•]	Hand Mail	Cynthia Kinser, Esquire Consumer Advocate Division 426 5th Avenue, N., 2nd Floor
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[ ]	Hand Mail Facsimile Overnight	T. G. Pappas, Esquire Bass, Berry & Sims 315 Deaderick Street, Suite 2700 Nashville, TN 37238-0002
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1		BELLSOUTH TELECOMMUNICATIONS, INC.
2		REBUTTAL TESTIMONY OF SANDY E. SANDERS
3		BEFORE THE TENNESSEE REGULATORY AUTHORITY
4		DOCKET NO. 97-00409
5		OCTOBER 6, 2000
6		
7	Q.	PLEASE STATE YOUR NAME AND ADDRESS.
8		
9	A.	My name is Sandy E. Sanders and my business address is 675 W. Peachtree
10		Street, N.E., Atlanta, Georgia.
11		
12	Q.	BY WHOM ARE YOU EMPLOYED?
13		
14	A.	I am employed by BellSouth Telecommunications, Inc. (hereinafter referred to as
15		"BellSouth" or "the Company") as a Manager - Federal Regulatory.
16		
17	Q.	ARE YOU THE SAME SANDY E. SANDERS WHO FILED DIRECT
18		TESTIMONY ON SEPTEMBER 15, 2000?
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20	Α.	Yes.
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22	Q.	WHAT IS THE PURPOSE OF YOUR TESTIMONY?
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1 A. The purpose of my testimony is to respond to certain assertions made by the
2 Tennessee Payphone Owners Association (TPOA) witness Mr. Don Wood.

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Q.

ON PAGES 5 AND 6 OF HIS DIRECT TESTIMONY, MR. WOOD DESCRIBES FOUR DISTINCT CRITERIA THAT HE BELIEVES AN INCUMBENT LOCAL EXCHANGE COMPANY'S ("ILEC'S") PAYPHONE ACCESS SERVICES RATES MUST MEET TO BE IN COMPLIANCE WITH THE FEDERAL COMMUNICATION COMMISSION'S ("FCC'S") PAYPHONE ORDERS. CONTENDS THAT A LEC'S RATES FOR PAYPHONE SERVICES MUST BE COST BASED, CONSISTENT WITH THE REQUIREMENTS OF SECTION 276 OF THE TELECOMMUNICATIONS ACT OF 1996 ("THE NONDISCRIMINATORY AND IN COMPLIANCE WITH THE FCC'S COMPUTER III TARIFFING GUIDELINES (I.E., IN COMPLIANCE WITH THE "NEW SERVICES" TEST). DO YOU AGREE WITH THIS?

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Α.

Mr. Wood is correct that the FCC's Payphone Orders require that these four criteria be met for payphones services. However, as I pointed out in my direct testimony, BellSouth's position is that while these requirements appear to be separate issues, a tariff which complies with the "new services" test will necessarily satisfy the other requirements articulated by the FCC. (See Page 14 of my direct testimony). Further, the very purpose of the "new services" test is to ensure that a rate is cost based, free of subsidies from other services and nondiscriminatory.

ON PAGES 8 AND 9 OF HIS TESTIMONY, MR. WOOD CITES A COUPLE OF Q. 2 STATE COMMISSIONS WHICH FOUND THAT CERTAIN PAYPHONE RATES 3 IN THEIR STATES DID NOT MEET THE "NEW SERVICES" TEST. HAVE STATE COMMISSIONS DETERMINED THAT INTRASTATE OTHER 5 PAYPHONE SERVICES IN THEIR RESPECTIVE STATES HAVE IN FACT MET 6 THE REQUIREMENTS OF THE "NEW SERVICES" TEST?

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Yes. In BellSouth's serving regions, the Alabama Public Service Commission ("APSC"), the Florida Public Service Commission ("FPSC") and the North Carolina Utilities Commission ("NCUC") ruled that BellSouth's rates for intrastate payphone services met the requirements of the "new services" test. In Docket No.25982, the Alabama Commission ruled that BellSouth's "rates (for payphone services) are in compliance with federal guidelines, are just and reasonable and nondiscriminatory, and recover a reasonable portion of overhead costs; and that the proposed rates do not subsidize the pay phones of the Petitioner's sister company". (See Page 2 of APSC Order dated October 3, 1997 in Docket No. 25982).

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In Docket No. 970281-TL, the FPSC determined that the "LECs' current tariffed rates for intrastate payphone services are cost-based and thus meet the 'new services' test". Further, the Commission ruled that "we find that the existing LEC tariffs for payphone services are cost-based, consistent with Section 276 of

the Act, and nondiscriminatory; therefore no further filings are necessary". (See Pages 4 and 6 FPSC Order No. PSC-98-1088-FOF-TL dated August 11, 1998 in Docket No. 970281-TL).

The NCUC, in Docket No. 100, Sub 84b, ordered that "the Commission finds that local exchange companies' existing intrastate tariffs for payphone services are cost based, consistent with the requirements of Section 276 of the Act with regard to the removal of subsidies from exchange and exchange access services, are nondiscriminatory, and meet the new services test." (See Pages 13 and 14 of NCUC Order in Docket No. P-100, Sub 84b dated June 16, 1999).

Q.

MR. WOOD STATES ON PAGES 11 AND 12 OF HIS TESTIMONY "WHEN APPLYING THE FCC'S NEW SERVICES TEST, THE TERM 'OVERHEAD' IS DEFINED TO INCLUDE BOTH SHARED AND COMMON COSTS". HE FURTHER MAINTAINS THAT "THE 'OVERHEAD LOADING' THAT IS TO BE EVALUATED PURSUANT TO THE NEW SERVICES TEST IS THE AMOUNT IN EXCESS OF THE CALCULATED DIRECT COST". WOULD YOU COMMENT ON WHAT IS A REASONABLE AMOUNT OF OVERHEAD?

Α.

In the context of a "new services" test analysis, a reasonable level of overhead means that BellSouth's service rate levels must fall within a range of cost/price ratios that have previously been accepted by the FCC for interstate filings. As I pointed out in my direct testimony, in deciding whether a service meets the "new

services" test, the FCC considers cost/price ratios for the services in question. The cost/price ratios of BellSouth's Payphone Service Provider ("PSP") services are within the cost/price ratios previously accepted by the FCC. One example of a cost/price ratio approved by the FCC is reflected in FCC 97-392 Order at ¶ 10, 11, fn.39 where the FCC found that Bell Atlantic's revised ratios for payphone features which are as high as 3.4 times the direct costs are not unreasonable and meet the "new services" test and also found that another rate which exceeded direct costs by 38 percent met the "new services" test. Further, in DA 97-1396 the FCC found that a rate that exceeded direct costs by 100 percent was reasonable and did not raise questions of lawfulness under the "new services" test. (CC Docket No. 97-140, 13 FCC Rcd 4241, DA 97-1396 (rel. July 2, 1997) ¶¶ 5,7)

There is no uniform overhead loading required to meet the "new services" test (FCC 97-392 Order at ¶ 13). As previously shown, and as discussed in Dr. Taylor's testimony, it is and has been recognized by the FCC that certain services may recover more or less overhead costs than other services. (FCC 97-392 Order at ¶ 13)

An example of a cost/price ratio accepted by the FCC for a BellSouth service is a November 24, 1997, filing to introduce a new service option for BellSouth Fastpacket Access Services, which reflects unit cost/unit price ratios for various rate elements from .10 to .33. Another FCC filing on this same day to introduce

a new service option for Uncompressed Switched Video Service shows a cost/price ratio of .70. Another example of various FCC-accepted cost/price ratios is evidenced in BellSouth's July 9, 1996, filing to introduce a new optional payment plan for LightGate® service and SMARTRing® service which reflects unit cost/unit price ratios for various rate elements from .02 to .93.

Another example of a cost/price ratio accepted by the FCC for a BellSouth service is a July 6, 1999 filing to expand the availability of SMARTGate service and BellSouth Managed Shared Ring Network to the states of Alabama and North Carolina that reflects cost/price ratios of .67 and .68 respectively for these services.

A filing on May 4, 1999 revising BellSouth Dedicated Ring service for Switched Access to include the state of Louisiana shows a cost/price ratio of .32. Another example of various FCC-accepted cost/price ratios is evidenced in BellSouth's November 20, 1998 filing to establish SMARTGate switched access rate elements for its SONET based transport services which reflects cost/price ratios of .72 and .20.

Other FCC tariffed rates for "new services" reflect similar variations in overhead levels. These examples of FCC-accepted cost/price ratios show that the cost/price ratios of .40 and .38 for Public Telephone Access Service ("PTAS") and SmartLine® Service in Tennessee, respectively fall within a range of

cost/price ratios that have been accepted by the FCC in interstate filings. My testimony demonstrates that BellSouth's existing rates for PTAS and SmartLine® service meet the requirements of the "new services" test.

Q. BEGINNING ON PAGE 20 OF HIS TESTIMONY MR. WOOD DISCUSSES THE EUCL AND PICC EXTENSIVELY AND THEIR APPLICABILITY IN DETERMINING APPROPRIATE RATES FOR INTRASTATE PAYPHONE SERVICES. PLEASE RESPOND.

Α.

The End User Common Line ("EUCL"), sometimes referred to as the Subscriber Line Charge ("SLC"), is a fee collected by LECs to recover a portion of the interstate costs associated with providing local telephone service. Because these fees are related to interstate costs, they are governed by the FCC. The FCC concluded that "... to avoid discrimination among payphone providers, the multi-line business SLC must apply to subscriber lines that terminate at both LEC and competitive payphones". (See CC Docket No. 96-128 FCC's Report and Order, adopted and released on September 20, 1996, at p. 187). Subsequently, the FCC stated "BellSouth contends there is no subsidization, because the SLC serves the purpose of recovering regulated costs associated with payphones. We agree with BellSouth that the application of a SLC to payphone lines is necessary for LECs to recover regulated costs assigned to the interstate jurisdiction. In addition, SLC charges will apply to LEC and non-LEC payphone lines, and therefore, the incremental SLC cost is the same for a LEC and non-

LEC payphone provider". (See FCC's Order on Reconsideration, adopted and released on November 8, 1996 in CC Docket No. 96-128, at p. 207). Earlier this year, the FCC stated "we note that amendments made to the Commission's rules following passage of the Telecommunications Act of 1996 mandate that both independent payphone providers and the LECs pay the EUCL charge for all of their payphones". (See FCC's Memorandum Opinion and Order on Remand, adopted on April 7, 2000 and released on April 13, 2000, in File Nos. E-89-170, et. al., at p.8).

Like the EUCL, the Presubscribed Interexchange Carrier Charge ("PICC") is an FCC authorized fee to help offset the costs incurred by LECs when they complete calls for Interexchange Carriers ("IXCs"). This fee is billed to the PSP's presubscribed IXC, except when the PSP has elected not to select a presubscribed IXC, in which case the PICC is billed to the PSP. The PICC, like the EUCL charge, is a federally authorized fee, and as such, and should be treated consistently with the EUCL charge.

Q.

IN MR. WOOD'S TESTIMONY, HE QUOTES EXTENSIVELY FROM THE FCC'S COMMON CARRIER BUREAU'S ("CCB'S") "WISCONSIN ORDER" AND STATES THAT THE WISCONSIN ORDER ANSWERS THE QUESTION "WHAT WOULD THE FCC REQUIRE THE LECS TO DEMONSTRATE (AND WHAT INFORMATION WOULD BE SPECIFICALLY REQUIRED TO BE PROVIDED) IF THE FCC WERE TO APPLY ITS OWN STANDARDS TO THE

## RATES FOR PAYPHONE ACCESS SERVICE?" PLEASE RESPOND TO THIS.

A.

Any reliance of Mr. Wood's testimony on the Wisconsin Order is misplaced. If sections of Mr. Wood's testimony are consistent with the Wisconsin order, then these parts of his testimony are at odds with the prior FCC payphone orders issued by the full FCC. The Wisconsin Order is not a final order of the FCC, and its very application is subject to a request for Stay, filed by the LEC Coalition on April 3, 2000. Moreover, the LEC Coalition has also applied for review of the CCB's Order, and has replied to oppositions to its applications for review and stay. Mr. Wood acknowledges that the Wisconsin Order applies only to the four Wisconsin LECs identified in the order. For the TPOA to rely on the Wisconsin Order is inappropriate.

The FCC exercised jurisdiction over the payphone issue in Wisconsin only because the Wisconsin Public Service Commission found that it lacked jurisdiction "under state law to address whether the rates, terms and conditions applicable to the provision of basic payphone lines comply with Section 276 of the Act". Due to the fact that the TRA has accepted jurisdiction in the payphone docket, the instant situation bares little, if any, resemblance to the Wisconsin case, and therefore reliance upon the CCB's Wisconsin order is inappropriate.

The FCC's jurisdiction of payphones is based on Section 276 of the Telecom Act. Section 276 of the Telecom Act gave rise to the original FCC Payphone Order and subsequent Order on Reconsideration. These orders require retail payphone access line rates to be cost based and to comply with the FCC's "new services" test. They do not, however, require the use of Unbundled Network Element ("UNE") cost elements in setting cost-based rates. By effectively allowing LECs to set payphone prices at UNE-based rates, the Wisconsin Order conflicts with 1996 Telecom Act, with prior FCC orders and sensible policy. If LECs were required to provide payphone services at UNE rates, it would virtually foreclose Competitive Local Exchange Company ("CLEC") competition in the market for payphone service. PSPs are not CLECs nor do they have the regulatory obligations associated with being a CLEC.

Further, concerning the Wisconsin order, the State Corporation Commission of the State of Kansas issued a July 17, 2000 Order regarding a formal complaint filed by the Kansas Payphone Association ("KPA") against Southwestern Bell Telephone, alleging that its PTAS rates were unreasonable, unfair, unjust and discriminatory. The Kansas Commission dismissed KPA's complaint. In its analysis, the Kansas Commission cited with approval its staff's view that "KPA reads too much" into the Common Carrier Bureau's Wisconsin Order, and that "the Order applies only to the four Wisconsin LECs". BellSouth submits that the Kansas Commission's reasoning is sound and equally applicable to the Tennessee case.

2	Q.	ON PAGE 38 OF HIS TESTIMONY, MR. WOOD STATES THAT ANY NEW
3		RATES DEVELOPED BY THE TRA FOR PAYPHONE SERVICES SHOULD BE
4		MADE EFFECTIVE RETROACTIVELY TO APRIL 15, 1997. DO YOU AGREE
5		WITH THIS?
6		
7	A.	Yes. The Payphone Orders require that the LECs have payphone rates that
8		meet the "new services" test in effect by April 15, 1997.
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10	Q.	DOES THIS CONCLUDE YOUR TESTIMONY?
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12	A.	Yes
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#### **AFFIDAVIT**

STATE OF: Georgia COUNTY OF: Fulton

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Sandy E. Sanders - Manager-Federal Regulatory, BellSouth Telecommunications, Inc., who, being by me first duly sworn deposed and said that:

He is appearing as a witness before the Tennessee Regulatory Authority in Docket No. 97-00409 on behalf of BellSouth Telecommunications, Inc., and if present before the Authority and duly sworn, his testimony would be set forth in the annexed testimony consisting of \_\_\_\_\_\_ pages and \_\_\_\_\_ exhibit(s).

Sandy E. Sanders

Sworn to and subscribed before me on 2 shows

**NOTARY PUBLIC** 

MICHEALE F. HOLCOMB

Notary Public, Douglas County, Georgia
My Commission Expires November 3, 2001

1	BELLSOUTH TELECOMMUNICATIONS, INC.
2	REBUTTAL TESTIMONY OF D. DAONNE CALDWELL
3	BEFORE THE TENNESSEE REGULATORY AUTHORITY
4	DOCKET NO. 97-00409
5	OCTOBER 6, 2000
6	
7	
8	Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.
9	
10	A. My name is D. Daonne Caldwell. My business address is 675 W. Peachtree St.,
11	N.E., Atlanta, Georgia. I am a Director in the Finance Department of BellSouth
12	Telecommunications, Inc. (hereinafter referred to as "BellSouth"). My area of
13	responsibility relates to the development of economic costs.
14	
15	Q. ARE YOU THE SAME D. DAONNE CALDWELL THAT FILED DIRECT
16	TESTIMONY IN THIS DOCKET?
17	
18	A. Yes. I filed direct testimony on September 15, 2000.
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20	Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?
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22	A. The purpose of my testimony is to reply to certain cost-related comments made by
23	Tennessee Payphone Owners Association witness, Mr. Don Wood.
24	
25	Q. ON PAGE 10, MR. WOOD ASSERTS THAT THERE ARE THREE

## CATEGORIES OF COST THAT MUST BE CONSIDERED. FROM A COST DEVELOPMENT PERSPECTIVE, IS HE CORRECT?

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A. No. Mr. Wood states that "[t]he Authority will need to examine three categories of 4 5 cost: direct, shared, and common." As I explained in my direct testimony, the cost methodology used by BellSouth identified only the direct costs of the service. This 6 Total Service Long Run Incremental Cost ("TSLRIC") methodology is appropriate 7 Я for use in assuring that the service is not being subsidized by any other product or service, i.e., as long as the rate is above TSLRIC then the service is not being 9 subsidized. Thus, it provides the appropriate foundation when establishing rates 10 for competitive services. There is no value in identifying shared and common 11 costs for each service in a multi-product firm since it would be based on some 12 arbitrary allocation of costs. 13

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# Q. ON PAGE 17, MR. WOOD ADVOCATES USING UNBUNDLED NETWORK ELEMENT ("UNE") COSTS TO DEVELOP THE COSTS FOR PAYPHONE ACCESS SERVICES. IS THIS NECESSARY?

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A. No. First, Bellsouth is under no obligation to revert to the unbundled network element results every time a service cost study is required. Second, the cost study filed in this docket reflects the characteristics and network configuration specific to payphone access service. Thus, the features, number of calls, holding time per call, and loop length are reflective of payphone access service.

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On page 18, Mr. Wood lists certain adjustments he feels would be needed if the

1		UNE costs are utilized: (1) remove unbundling costs, (2) reflect payphone access
2		service characteristics, and (3) recognize potentially duplicative charges. Because
3		BellSouth's costs were not based on elements that had been unbundled, however,
4		there are no "unbundling" costs to remove. Further, as I have discussed
5		previously, the study was conducted for payphone access service, thus the
6		characteristics of the payphone access line are already considered in the cost study
7		Mr. Sanders will address Mr. Wood's third point, i.e., the alleged "duplicative"
8		charges.
9		
10	Q.	YOU MENTIONED THAT LOOP LENGTH WAS SPECIFICALLY
11		CONSIDERED IN BELLSOUTH'S COST STUDY. ON PAGE 19, MR.
12		WOOD STATES THAT THE LOOP LENGTH SHOULD REFLECT ONLY
13		BUSINESS LINE CHARACTERISTICS. IS HE CORRECT?
14		
15	A.	No. Mr. Wood is absolutely wrong. The loop length should equate to the average
16		length of a payphone access line, not a business line. This is as I explained in my
17		direct and is exactly what BellSouth has done. A sample of payphone access lines
18		was drawn and the average loop length was determined from that sample.
19		
20		Mr. Wood's claim that BellSouth will only process a payphone access line order
21		for a business address is true, but this restriction has to do with class of service
22		limitations, not the physical attributes of the line. Payphones are often located in
23		"residential" settings; pool houses/ clubhouses, public housing, and trailer parks.
24		Thus, Mr. Wood's claim should be disregarded.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?** 

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3 A. Yes.

<u>AFFIDAVIT</u>

STATE OF: Georgia

COUNTY OF: Fulton

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for

the State and County aforesaid, personally came and appeared D. Daonne Caldwell - Director

-Finance, BellSouth Telecommunications, Inc., who, being by me first duly sworn deposed

and said that:

She is appearing as a witness before the Tennessee Regulatory Authority in Docket

No. 97-00409 on behalf of BellSouth Telecommunications, Inc., and if present before the

Authority and duly sworn, his testimony would be set forth in the annexed testimony

consisting of  $\mathcal{L}$  pages and  $\mathcal{L}$  exhibit(s).

D. Daonne Caldwell

D. Daonne Calwell

Sworn to and subscribed before me on 2000

**NOTARY PUBLIC** 

MICHEALE F. HOLCOMB

Notary Public, Douglas County, Georgia My Commission Expires November 3, 2001

#### REBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

#### BEFORE THE TENNESSEE REGULATORY AUTHORITY

#### **DOCKET NO. 97-00409**

#### **OCTOBER 6, 2000**

1	Q.	PLEASE	STATE	YOUR	NAME,	BUSINESS	ADDRESS,	AND	CURRENT	ſ

- POSITION.
- 3 A. My name is William E. Taylor. I am Senior Vice President of National Economic Research
- 4 Associates, Inc. ("NERA"), head of its Communications Practice, and head of its
- 5 Cambridge office located at One Main Street, Cambridge, Massachusetts 02142.

#### 6 Q. PLEASE DESCRIBE YOUR EDUCATIONAL, PROFESSIONAL, AND BUSINESS

- 7 **EXPERIENCE.**
- I have been an economist for over twenty-five years. I earned a Bachelor of Arts degree
- from Harvard College in 1968, a Master of Arts degree in Statistics from the University of
- 10 California at Berkeley in 1970, and a Ph.D. from Berkeley in 1974, specializing in
- Industrial Organization and Econometrics. For the past twenty-five years, I have taught and
- published research in the areas of microeconomics, theoretical and applied econometrics,
- which is the study of statistical methods applied to economic data, and telecommunications
- policy at academic and research institutions. Specifically, I have taught at the Economics
- Departments of Cornell University, the Catholic University of Louvain in Belgium, and the
- Massachusetts Institute of Technology. I have also conducted research at Bell Laboratories
- and Bell Communications Research, Inc.
- I have participated in telecommunications regulatory proceedings before many state
- public service commissions, including the former Tennessee Public Service Commission
- and the Tennessee Regulatory Authority ("Authority"). In addition, I have filed affidavits
- before the Federal Communications Commission ("FCC") and the Canadian Radio-
- television Telecommunications Commission on matters concerning incentive regulation,
- price cap regulation, productivity, access charges, local competition, interLATA
- competition, interconnection and pricing for economic efficiency. Recently, I was chosen by



the Mexican Federal Telecommunications Commission and Telefonos de Mexico ("Telmex") to arbitrate the renewal of the Telmex price cap plan in Mexico.

I have also testified on market power and antitrust issues in federal court. In recent years, I have studied—and testified on—the competitive effects of mergers among major telecommunications firms and of vertical integration and interconnection of telecommunications networks.

Finally, I have appeared as a telecommunications commentator on PBS Radio and on The News Hour with Jim Lehrer. My curriculum vita is attached as Exhibit WET-1.

#### Q. PLEASE DESCRIBE NERA, YOUR PLACE OF EMPLOYMENT.

A. Founded in 1961, National Economic Research Associates or NERA is an internationally known economic consulting firm. It specializes in devising economic solutions to problems involving competition, regulation, finance, and public policy. Currently, NERA has more than 275 professionals (mostly highly experienced and credentialed economists) with 10 offices in the U.S. and overseas offices in Europe (London and Madrid) and Sydney, Australia. In addition, NERA has on staff several internationally renowned academic economists as Special Consultants who provide their professional expertise and testimony when called upon.

The Communications Practice, of which I am the head, is a major part of NERA. For over 30 years, it has advised a large number of communications firms both within and outside the U.S. Those include several of the regional Bell companies and their subsidiaries, independent telephone companies, cable companies, and telephone operations abroad (e.g., Canada, Europe, Japan and East Asia, Australia, and South America). In addition, this practice has supported a large number of legal firms and the clients they represent, and routinely provided testimony or other input to governmental entities like the FCC, the Department of Justice, the U.S. Congress, several state regulatory commissions, and courts of law. Other clients include industry forums like the United States Telephone Association.

#### Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?



- 1 A. I have been asked by BellSouth Telecommunications ("BST") to review and comment on
- the economic and regulatory issues raised in the testimony of Don Wood, on behalf of the
- Tennessee Payphone Owners Association ("TPOA"). At issue primarily are (i) how
- 4 payphone access line services provided by BST to independent payphone service providers
- 5 ("PSPs") in Tennessee should be priced, and (ii) whether those prices conform to the
- statutory requirements of the Telecommunications Act of 1996 ("TA 96") and the standards
- 7 established by the FCC to implement those requirements.

#### **Q. PLEASE SUMMARIZE YOUR POSITION ON THOSE ISSUES.**

- 9 A. Mr. Wood describes standards to be applied when evaluating the appropriateness of BST's
- rates for payphone access services, including the FCC's multi-part test. Upon careful
- consideration of the issues raised in his testimony (especially in light of the record
- developed by the FCC on those matters), I conclude that BST's tariffed rates in Tennessee
- (i) satisfy all statutory requirements, (ii) are fair and reasonable, (iii) conform to efficient
- pricing principles, and (iv) do not portend ill for the growth of the payphone market in the
- 15 state.

#### 16 Q. HOW IS YOUR REBUTTAL TESTIMONY ORGANIZED?

- 17 A. This rebuttal testimony is composed of three parts. First, I provide some background
- information about the payphone industry that is germane to my subsequent discussion of the
- economic issues raised in the testimonies of Mr. Wood. Second, I demonstrate Mr. Wood
- 20 has either misunderstood or made errors in analyzing several aspects of the statutory
- requirements that BST's rates for payphone services must satisfy for the Authority to
- reaffirm them. Third, I provide conclusions based on my analysis.

#### 23 Q. PLEASE DESCRIBE THE CHARACTERISTICS OF TELEPHONE SERVICE

#### 24 **PROVIDED THROUGH PAYPHONES.**

- A. Payphones may be used to place (and sometimes receive) most kinds of telephone calls that
- are traditionally made from privately-owned telephones by residential and business
- subscribers to the public switched network. However, payphones differ from privately-
- owned telephones in some important respects.



1. Unlike privately-owned telephones, payphones are owned and maintained by PSPs.

- 2. PSPs install their payphones on property provided—typically, commercially leased—by "location providers." Privately-owned telephones are typically located on the premises of the telephone owners themselves.
  - 3. Payphone service typically involves four parties: the PSP that owns the payphone, the location provider that provides the site for installing the payphone, the telecommunications carriers that actually carry calls from the payphone to their eventual destinations, and the payphone user. In contrast, service from privately-owned telephones only involves two parties: the telephone owner and the carriers used to place and receive calls.
  - 4. Unlike privately-owned telephones for which services are typically billed on a monthly basis, payphone users must pay at the time they make their calls.

Just like privately-owned telephones, payphones may be used to make local, long distance toll, and toll-free (800 number) calls. However, payphone users have the option of either paying in cash (i.e., receive service on a "coin" basis) or charging to telephone calling cards or other parties (i.e., receive service on a "coinless" basis).

Payphones are typically presubscribed to designated interexchange carriers ("IXCs") or operator service providers ("OSPs") for the carriage of inter- and intrastate long distance calls or to designated local exchange carriers ("LECs") for the carriage of local and intrastate long distance calls. The payphone owners, i.e., the PSPs, may, therefore, not be telecommunications carriers themselves. As I explain below, this fact has an important bearing on the structure of the payphone market. It also means that revenue earned from payphone users are shared among three parties: the carriers, the PSPs, and the location providers (who receive commissions).

#### Q. PLEASE DESCRIBE THE STRUCTURE OF THE PAYPHONE MARKET.

OSPs are usually IXCs that provide operator-assisted long distance service. They may be "presubscribed" (i.e., OSPs to whom long distance payphone calls would be automatically sent) or "non-presubscribed" (i.e., OSPs whom payphone callers may reach by use of special access codes). An access code is a sequence of numbers that needs to be dialed to connect the caller to the OSP associated with that sequence, as opposed to the OSP presubscribed to the originating line. Access codes include 1010XXX in equal access areas and "950" Feature Group B dialing (950-0XXX or 950-1XXX) anywhere, where the three-digit XXX denotes a particular IXC. Some OSPs use an 800 number as an access code. Dial around calls are all calls that bypass any presubscribed carrier. The Telephone Operator Consumer Services Improvement Act ("TOCSIA") of 1990 prohibits PSPs from blocking access to non-presubscribed OSPs (by access code or dial around calls) by payphone users.



A. In order to assemble its retail payphone service, an PSP must use an access line to connect its payphone set to the public switched network (at a central office) and provide local usage services and various features (e.g., central office blocking and screening and, optionally, billed number screening). Although, from an economic standpoint, the access line and other services/features would appear to be intermediate goods, i.e., resources needed to support payphone use, they are customarily viewed as tariffed *business* exchange services and the PSPs themselves as (retail) business end-users.

As explained by BST witness Sandy Sanders, in Tennessee, BST provides these components of payphone service in two forms: Public Telephone Access Service ("PTAS") and Smartline<sup>®</sup> service.<sup>2</sup> Traditionally, Tennessee PSPs have purchased these services from BST, the *incumbent* LEC. However, as *competitive* LECs ("CLECs") expand their operations in the state, the access line services needed for payphone service are becoming increasingly available from non-BST sources.<sup>3</sup>

PTAS and Smartline® are both tariffed business services that have traditionally been priced at or near the level of rates for *business* local exchange service. Those prices have also included contribution toward BST's shared and common costs.

### Q. WHY DO PRICES OF SERVICES LIKE PTAS AND SMARTLINE® INCLUDE CONTRIBUTION TOWARD BST'S SHARED AND COMMON COSTS?

A. As also explained by BST witness Daonne Caldwell, there are broadly two types of cost: (i) direct incremental cost that is incurred when adding or expanding the provision of a specific service (such as PTAS or Smartline<sup>®</sup>), and (ii) shared cost that is not specific to any single service but arises in the process of adding or expanding the provision of several services. A common cost is simply a cost that is shared by *every* service, e.g., that arising from

<sup>&</sup>lt;sup>3</sup> CLEC competition is growing in Tennessee. It is my understanding that, as of August 2000, at least 75 CLECs (a mix of facilities-based carriers and resellers) were certificated to operate in the state. Mr. Sanders also states that, as of August 2000, 291 PSPs operated in the state of Tennessee. Direct testimony of Sandy Sanders, at 15.



<sup>&</sup>lt;sup>2</sup> Direct Testimony of Sandy E. Sanders in this proceeding, September 15, 2000. Mr. Sanders explains that PTAS is designed to work with "smart" payphone sets equipped with software for rating calls, collecting coins, and diagnosing maintenance problems. In contrast, Smartline<sup>®</sup> is designed to work with "dumb" payphone sets, i.e., those which rely on central office-based software for carrying out the same functions.

administrative, legal, human resources, and financial functions. Shared and common costs are sometimes referred to as *overhead* costs: unlike direct incremental costs, they cannot be identified with specific services.

While it is economically efficient for service prices to be set as close to underlying incremental costs as possible, in certain capital-intensive industries like telecommunications that form of pricing is simply not feasible.<sup>4</sup> In those industries, firms typically experience relatively high fixed (i.e., volume-insensitive) and shared and common costs and relatively low service-specific incremental costs. Setting prices to recover only those incremental costs would, therefore, prevent firms from recovering their substantial shared and common costs and from breaking even (making a normal return on capital). In those circumstances, economic theory prescribes specific rules (which I discuss at length later in my testimony) for marking service prices above incremental costs so as to recover *all* costs in an economically efficient manner. This is the rationale for including contribution toward shared and common costs in the prices of PTAS and Smartline<sup>®</sup> service.

#### Q. IS THE PAYPHONE INDUSTRY COMPETITIVE TODAY?

A. Yes. Retail payphone service has been declared to be competitive by the FCC, although it has not yet been freed totally from all federal or state regulation. At Divestiture in 1984 (when the old Bell System was broken up under a consent decree), payphone service was considered a part of basic local service and assigned entirely to the Bell Operating Companies ("BOCs")—of which BST is one—rather than to AT&T or other IXCs. The advent of smart payphones in the mid-1980's and a subsequent FCC reclassification of smart payphones as terminal equipment rather than network elements led to the emergence of non-LEC providers of payphone service. In the years since, almost 1.75 million LEC payphones have been placed in service nationwide, 5 and the number of PSP payphones has

Source: FCC Common Carrier Bureau, Statistics of Communications Common Carriers, 1998/99 edition, Table 2.10.



<sup>&</sup>lt;sup>4</sup> The discussion here focuses on *services*, not network elements. I return to this distinction later in my testimony.

long since surpassed 350,000.6

Even though retail payphone service is competitive, the FCC retains authority over several aspects of their operation. Since the passage of TA 96, the FCC has issued a series of orders (collectively the *Payphone Orders*)<sup>7</sup> implementing the provisions of Section 276 of TA 96 that affect various aspects of the payphone industry. In the course of issuing these orders in 1996 and 1997, the FCC stated and reaffirmed its belief that the payphone industry is competitive. For example:

... the payphone industry has the potential to be very competitive. Entry into the payphone business appears to be easy. The ability to purchase a payphone, secure a location contract, obtain a payphone line from the LEC, and maintain the payphone are, together, the minimal technical requirements to enter into the payphone business. In addition, payphone lines are part of the tariffed offerings of local exchange carriers and, in some jurisdictions, only a simple business line is required to the [sic] payphone service. As contracts come up for renewal, or as location providers find it economical to put in new payphones, PSPs [payphone service providers] and [IXCs] routinely make themselves available to negotiate new agreements among themselves and the location provider.

A payphone can be removed and used at another location, which facilitates entry and exit. If a PSP can easily redeploy its assets, it will be more willing to place a payphone in response to a small increase in price, because the risk of such placement is lower. In addition, there appear to be no significant scale or scope economies or network externalities that would impede entry of new firms. As a result, barriers to entry appear to be very low. In fact a large number of firms, both large and small, have entered the industry since it was initially opened to competition in 1984, and those firms have provided competition in at least some segments of the payphone market.<sup>8</sup>

<sup>&</sup>lt;sup>8</sup> FCC 96-388 Order, ¶¶ 11-12. (Footnotes omitted)



<sup>&</sup>lt;sup>6</sup> Source: FCC, In the Matter of Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, CC Docket No. 96-128, Notice of Proposed Rulemaking ("NPRM"), released June 6, 1996, ¶ 6 (citing an ex parte letter, dated April 24, 1996, from Cincinnati Bell to the Common Carrier Bureau).

<sup>&</sup>lt;sup>7</sup> FCC, In the Matter of Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, CC Docket No. 96-128, Report and Order ("FCC 96-388 Order"), released September 20, 1996; Order on Reconsideration ("FCC 96-439 Order"), released November 8, 1996; Order (Common Carrier Bureau DA 97-678, "Bureau Waiver Order"), released April 4, 1997; Order (Common Carrier Bureau DA 97-805, "Second Bureau Waiver Order"), released April 15, 1997; Second Report and Order ("FCC 97-371 Order"), released October 9, 1997.

# Q. GIVEN THE FCC'S FINDING THAT PAYPHONE SERVICE IS COMPETITIVE, HOW HAVE ITS ACTIONS TAKEN THROUGH THE PAYPHONE ORDERS AFFECTED THE PAYPHONE INDUSTRY?

A. As I explain in greater length later in my testimony, through its *Payphone Orders* the FCC has laid out a roadmap for eventually removing all regulation and tariffing requirements from the payphone industry. Its finding that the industry is currently competitive and has the potential to become even more so has prompted the FCC to initiate steps to further reduce entry barriers in this industry. The FCC has taken four specific steps.

First, acting on the mandate provided by Section 276 of TA 96 (discussed later), the FCC has decreed that BOC-owned and operated payphones be reclassified as customer premises equipment ("CPE") rather than as network elements, and separated from the payphone access and usage services (such as PTAS and Smartline®) that are available from BOCs. Such unbundling is intended to prevent any cross-subsidization of BOC payphone service by other BOC services like basic exchange and exchange access.9

Second, the FCC has retained tariffing requirements for BOC-provided payphone access and usage services, particularly where a BOC is itself a provider of retail payphone service. As I discuss later in my testimony, those requirements (or *non-structural safeguards*) involve demonstrating that tariffed rates of payphone access and usage services are cost-based and non-discriminatory and that they pass the new services test to which all price-capped LECs are subject.<sup>10</sup>

Third, recognizing that its actions, and particularly the non-structural safeguards, eliminate the possibility of anti-competitive pricing of payphone access and usage services by BST and other BOCs (or incumbent LECs), the FCC has specifically and pointedly declined to adopt *structural* safeguards such as requiring that BOCs that also provide retail payphone service do so through separate affiliates (that maintain a separate corporate



<sup>&</sup>lt;sup>9</sup> FCC 96-388 Order, ¶¶ 142-144.

<sup>&</sup>lt;sup>10</sup> *Id.*, ¶ 146.

structure and accounting books from the BOCs themselves).11

Fourth, the FCC has specifically and pointedly declined to require that payphone access and usage services provided by BST and other incumbent LECs be subject to the same pricing regime that applies under Sections 251 and 252 of TA 96 to interconnection and unbundled network elements ("UNEs").<sup>12</sup>

As for retail payphone service itself, the FCC has instituted per-call compensation mechanisms that would compensate PSPs that receive no revenue whenever payphone customers make toll-free (subscriber 800), dial around long distance (or access code), and debit card calls. Significantly, the FCC has declined to set per-call compensation rates on a cost plus markup basis, insisting instead that retail payphone competition should be trusted to produce efficient market-determined rates.<sup>13</sup>

### Q. PLEASE EXPLAIN WHAT SECTION 276 OF TA 96 ENVISIONS FOR PAYPHONE SERVICE.

A. Section 276 of TA 96 requires, *inter alia*, that any BOC that provides payphone service: (i) shall not subsidize its payphone service directly or indirectly from its telephone exchange service operations or its exchange access operations; and (ii) shall not prefer or discriminate in favor of its payphone service. These are the basis for several non-structural safeguards that the FCC has sought to implement through its *Payphone Orders*. As Mr. Sanders has pointed out in his testimony, the critical requirement is that a BOC's tariffed rates for payphone access line services pass the "new services test" which evolved as a non-structural safeguard from the FCC's *Computer III* docket.<sup>14</sup>

The new services test—which I describe below—subsumes three specific requirements: that the tariffed rates in question be (i) cost-based, (ii) consistent with the requirements of Section 276 with regard, e.g., to the removal of subsidies from basic exchange and

<sup>&</sup>lt;sup>14</sup> Amendment of Section 64.702 of the FCC's Rules and Regulations ("Computer III").



<sup>&</sup>lt;sup>11</sup> *Id.*, ¶ 145.

 $<sup>^{12}</sup>$  Id., ¶ 147.

<sup>&</sup>lt;sup>13</sup> Id., ¶¶ 118-119 (especially, fn. 323).

- exchange access services, and (iii) non-discriminatory. Mr. Wood devotes a substantial
- 2 part of his testimony to the claim that, by applying only the new services test to its
- payphone access line services, BST has somehow failed to address these three requirements.
- This charge is immaterial because it makes a distinction without a difference. The new
- services test cannot be passed without the three requirements also being satisfied.

#### 6 Q. WHAT DOES IT MEAN FOR A PRICE OR RATE TO BE "COST-BASED?"

- 7 A. A price is said to be cost-based if it is set in some relationship to the underlying economic
- 8 cost. In general, a cost-based rate is the sum of direct incremental cost and a market-
- determined markup that recovers other costs. At a minimum, a cost-based rate must recover
- the direct incremental cost.

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### Q. DOES THAT MEAN THAT A COST-BASED PRICE SHOULD BE *EQUAL TO* A SPECIFIC MEASURE OF COST?

- 13 A. No. A cost-based price may differ from a specific measure of cost for a number of reasons.
- 14 For example, the price need not be equal to direct incremental cost because of the need to
- include a contribution toward shared and common costs. As I mentioned before, in certain
- industries like telecommunications, if all service prices were set exactly equal to their
- 17 respective incremental costs, the firm would fail to recover all of its costs. Therefore, there
- are circumstances in which prices of services must deviate efficiently from their incremental
- costs in order for the firm to earn a normal return on its investment. Other special
- 20 circumstances may warrant a greater degree of markup for prices above incremental cost.
- For example, in the present environment, LECs are obliged to price their residential basic
- 22 exchange service below the incremental cost of that service. Sustaining such a price is only
- possible by including contribution toward residential basic exchange service in the prices of
- some or all of LECs' other services.
- Basing a price on the underlying cost ensures that the price is cost-causative, i.e., what
- the customer is asked to pay depends on the cost of the resources that were specifically used
- to provide the service to the customer. A cost-based price also insures against anti-
- competitive behavior. For example, a price that is no less than the underlying incremental



- cost cannot be predatory. Also, a price that is no less than the underlying total service long
- 2 run incremental cost ("TSLRIC") cannot be receiving a cross-subsidy. Thus, a firm that
- charges a price that is at least equal to incremental cost or TSLRIC cannot be pricing anti-
- 4 competitively.

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#### Q. WHAT DOES IT MEAN FOR A PRICE TO CONFORM TO THE

#### **REQUIREMENTS OF SECTION 276 OF TA 96?**

- A. Section 276 of TA 96 forbids the price (here, the prices of BST's payphone access line
- 8 services, PTAS and Smartline®) from receiving a cross-subsidy from any basic exchange or
- 9 exchange access service.

#### Q. WHAT DOES IT MEAN FOR A PRICE TO BE NON-DISCRIMINATORY?

11 A. Non-discrimination—another requirement of Section 276 of TA 96—implies that the provider of a service cannot charge different prices to different similarly-situated 12 customers.16 While price discrimination is fairly common in mature and competitive 13 markets for retail services, Section 276's purpose here is to augment whatever protection is 14 afforded by growing payphone service competition by prohibiting price discrimination for 15 16 the payphone access line service that both a LEC and its competitor (a PSP) may use to provide payphone service.<sup>17</sup> This safeguard ensures that the LEC that supplies payphone 17 access services does not derive an unfair advantage by charging its own payphone affiliate 18 19 less for those services than it does its PSP competitors. However, as PSPs are increasingly able to acquire those services from non-BST sources, the economic significance of the non-20 discrimination requirement will decline. 21

<sup>&</sup>lt;sup>17</sup> Price discrimination is not inherently bad unless it confers on the price discriminating firm an unfair competitive advantage. For example, if a firm has monopoly control over an essential wholesale service which both it and its competitors must use to provide a retail service, then charging itself a lower price for the wholesale service than the price it charges its competitors can be an unfair and anti-competitive form of price discrimination.



<sup>&</sup>lt;sup>15</sup> In economic theory, incremental cost refers only to the additional cost of producing the next increment (or unit) of a service. TSLRIC refers to the additional cost of producing the entire volume of that service. By definition, that includes all variable and fixed costs specific to that service.

<sup>&</sup>lt;sup>16</sup> A similar standard on price discrimination exists in Tennessee. For example, T.C.A. § 65-4-122(a) prohibits price discrimination "for service of a like kind under substantially like circumstances and conditions."

#### Q. WHAT IS THE NEW SERVICES TEST?

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A. The new services test is described in Part 61.49(f)(2) of the Code of Federal Regulations. It 2 is more fully explained in an amendment of the FCC's Part 69 access charge rules<sup>18</sup> that 3 4 enabled the BOCs to offer unbundled Open Network Architecture ("ONA") services. In its Order in that proceeding, the FCC modified the LEC Price Cap Order new services test to 5 give "additional pricing flexibility to price cap local exchange carriers[.]" As described in 6 Part 61.49(f)(1-2), when a price cap LEC introduces a new service, it is required to submit 7 cost data sufficient to establish that the new service will generate a "net revenue increase" 8 9 and that the new service will not recover "more than a reasonable portion of the carrier's overhead costs." The purpose of this test is clearly to insure that the new service—here, 10 PTAS or Smartline<sup>®</sup>—is not priced anti-competitively. 11

It is obvious that a price that passes the new services test must be cost-based because it would have to be set in some relationship to underlying cost, namely, at or above TSLRIC. A price that is at or above TSLRIC would also, by definition, not be cross-subsidized—by basic exchange, exchange access, or any other service—and, thus, conform to Section 276 of TA 96. Finally, it cannot be discriminatory if it applies equally to BST's own payphone affiliate and to that affiliate's PSP competitors.

### Q. HAS THE FCC DETERMINED A SPECIFIC IMPLEMENTATION OF THE NEW SERVICES TEST?

A. No. While the FCC has addressed the issue on various occasions, it appears not to have settled on one definitive interpretation of the new services test. In most instances I am aware of, a showing that the price is some multiple (with a minimum of one) of the direct cost has—where uncontested—been sufficient to pass the test. Only in circumstances in which other parties have contested a LEC's proposed price, has the FCC felt compelled to



In the Matter of Amendments of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements for Open Network Architecture Policy and Rules Concerning Rates for Dominant Carriers, FCC 91-186, Report and Order, Order on Further Reconsideration and Supplemental Notice of Proposed Rulemaking ("FCC 91-186 Order"), CC Docket Nos. 89-79 and 87-313, released July 11, 1991.

<sup>&</sup>lt;sup>19</sup>  $Id., \P 1.$ 

- 1 rule on whether the proposed price unreasonably exceeds the underlying direct cost.<sup>20</sup> Even
- 2 then, the FCC has upheld prices significantly above direct cost, e.g., 3.4 times the direct
- cost for payphone features provided by the former Bell Atlantic.<sup>21</sup> This is sufficient reason 3
- for the Authority to interpret the new services test flexibly, based on appropriate economic
- 5 reasoning and sound public policy.

#### Q. IN YOUR OPINION, WHAT SHOULD THE AUTHORITY CONSIDER WHEN 6

#### CONDUCTING THE NEW SERVICES TEST?

- 8 A. There are, in my view, two important aspects to the new services test. The first concerns
- 9 the choice of the cost standard that best measures the "direct cost" element of the new
- 10 services test. The second concerns a determination whether the markup or overhead loading
- by which the tariffed rate exceeds the direct cost is reasonable. 11

#### Q. HAS THE FCC EVER REQUIRED THE ADOPTION OF A SPECIFIC COST 12

#### STANDARD FOR THE NEW SERVICES TEST?

- 14 A. No. Apart from ruling out one specific cost methodology (discussed below), the FCC has
- 15 never clearly indicated what cost standard should be selected for the purposes of the test.
- However, in the past it did state: 16
- 17 Under our approach, a LEC introducing new services will be required to submit its engineering studies, time and wage studies, or other cost accounting studies 18
- 19 to identify the direct costs of providing the new service, absent overheads, and
- 20 must also satisfy the net revenue test. ... LECs may develop their own costing
- methodologies, but they must use the same costing methodology for all related 21 services.22
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23 Even when the FCC had an opportunity in 1997 to revisit this issue, it issued no new



<sup>&</sup>lt;sup>20</sup> For example, see FCC rulings on payphone-related tariff filings by Bell Atlantic and GTE in In the Matter of Local Exchange Carriers' Payphone Functions and Features (CC Docket No. 97-140), Bell Atlantic Telephone Companies Revisions to Tariff F.C.C. No. 1 (Transmittal Nos. 962 and 966), GTE System Telephone Companies Revisions to Tariff F.C.C. No. 1 (Transmittal Nos. 206 and 1112), GTE System Telephone Companies Revisions to Tariff F.C.C. No. 1 (Transmittal Nos. 1095 and 217), Memorandum Opinion and Order ("FCC 97-392 Order"), released October 29, 1997.

<sup>&</sup>lt;sup>21</sup> *Id*.

<sup>&</sup>lt;sup>22</sup> FCC 91-186 Order, ¶ 42.

- instructions.<sup>23</sup> That is in sharp contrast to the level of detail that the FCC has gone to in
- directing how a new cost methodology should be employed to determine costs and rates for
- 3 UNEs (discussed below).
- 4 Q. MR. WOOD [AT 12-13] APPEARS TO EQUATE THE AUTHORITY'S TASK IN
- 5 THIS PROCEEDING TO THAT IN DOCKET NO. 97-01262 IN WHICH THE
- 6 AUTHORITY WILL ESTABLISH COST-BASED RATES FOR UNBUNDLED
- 7 NETWORK ELEMENTS. IS THAT A PROPER COMPARISON?
- A. Absolutely not. While there are some surface similarities between the tasks in that

  proceeding and the present one, it is dangerous to read too much into those similarities. It is

  true that cost-based and non-discriminatory rates needed to be established for UNEs in that
- proceeding, just as such rates need to be established for BST's payphone access line
- services in this proceeding. However, the cost standard on which rates for UNEs were to be
- based is *not* the same as the one that would apply in this proceeding.

does *not* apply in the current proceeding for the following reasons:

- Going by Sections 251 and 252 of TA 96, the FCC had interpreted the pricing rules therein to mean that prices of all UNEs should be set equal to their respective total *element* long run incremental costs ("TELRICs"). The FCC defined TELRIC to include "... the forward-looking costs directly attributable to the specified element, as well as a reasonable allocation of forward-looking common costs."<sup>24</sup> It is extremely important to understand that the TELRIC methodology that had also been adopted in Tennessee's Docket No. 97-01262
- 1. TELRIC pricing applies to unbundled network *elements*, not *services*. Elements are simply functionalities or network components that need to be combined in order to form telecommunications services. Those elements are of no value in and of themselves to end-users. Services, on the other hand, have value to end-users or other customers. As the FCC itself has recognized, services frequently share resources (e.g., retailing resources) and, therefore, have shared costs, whereas UNEs may have little shared costs. Therefore, the cost standard for UNEs, namely, TELRIC, is very different from the cost

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<sup>&</sup>lt;sup>24</sup> FCC, In the Matter of Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order ("Local Competition Order"), released August 19, 1996, ¶ 682.



<sup>&</sup>lt;sup>23</sup> FCC 97-392 Order.

- standard for services, namely, TSLRIC. In Docket No. 97-01262, the Authority had established TELRICs for UNEs, *not* TSLRICs for services.
- 2. As I pointed out earlier, the FCC has itself specifically *ruled out* the application of pricing rules from Sections 251 and 252 of TA 96 to tariffed rates for BOC payphone services.<sup>25</sup> Therefore, any reasonable costing methodology that is appropriate for services (e.g., BST's choice of TSLRIC or some other) would be consistent with the new services test, but *not* the TELRIC methodology or the framework provided by Sections 251 and 252 of TA 96.

### Q. HAS BST EMPLOYED THE PROPER COST STANDARD IN THIS PROCEEDING?

A. Yes. In this proceeding, rates are being determined for two services, not elements.

Therefore, for reasons stated above, the TELRIC cost standard is not appropriate. Instead, BST's choice of the TSLRIC cost standard is appropriate because TSLRIC measures direct cost (as required by the new services test) for the two services consistently with how that cost is caused. The FCC itself has been specific and direct in ruling out the application of UNE cost standards to payphone access line services, despite the recent directive from the Common Carrier Bureau. The Common Carrier Bureau issued a directive in March of this year that UNE cost standards be applied to payphone access and usage services. The Common Carrier Bureau's directive was intended to apply only to four LECs providing payphone access line services in Wisconsin. While Mr. Wood apparently agrees with this fact [at 34-35], he is clearly not averse to taking a view of the directive that is more

While the order is specific to four Wisconsin ILECs, it does serve to provide clarification in this case by answering the following question: What would the FCC require the LECs to demonstrate (and what information would be specifically required to be provided) if the FCC were to apply its own standards to the rates for payphone access service.

The fact of the matter is that, regardless of the pronouncements of the Deputy Chief of the

expansive than warranted when he remarks:

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<sup>&</sup>lt;sup>26</sup> Common Carrier Bureau, In the Matter of Wisconsin Public Service Commission Order Directing Filings, CCB/CPD No. 00-1, released March 2, 2000.



<sup>&</sup>lt;sup>25</sup> See footnote 12, *supra*.

1	Common Carrier Bureau, the FCC itself has never applied its TELRIC standards for UNEs
2	to payphone services. In its First Payphone Order [at ¶147], the FCC made it perfectly
3	plain that it rejected the requirement that "the pricing regime under Sections 251 and 252
4	apply to all Section 276 payphone services offered by incumbent LECs." It also held that
5	"the elements and services to be offered under Sections 251 and 252 are not available to
6	entities that are not telecommunications carriers, and many [PSPs] are not
7	telecommunications carriers." Finally, it stated categorically that "Section 276 does not
8	refer to or require the application of Sections 251 and 252 to LEC payphone services."
9	Q. HAS THE FCC PROVIDED SPECIFIC GUIDELINES ON WHAT WOULD
10	CONSTITUTE A REASONABLE OVERHEAD LOADING IN A TARIFFED RATE
11	THAT IS SUBJECT TO THE NEW SERVICES TEST?
12	A. No. The FCC has not stated a precise methodology for determining a reasonable loading
13	factor (i.e., the percent markup above direct costs). The Authority has the latitude to apply
14	its own best judgment for determining the proper loading factor for all of BST's services,
15	including payphone services. A review of the previous FCC Orders, however, indicates that
16	the FCC is interested in efficient pricing and in granting adequate flexibility. For example,
17	at one point the FCC decided:
18 19	[t]o provide the flexibility needed to achieve efficient pricing, we are not mandating <i>uniform</i> loading, but BOCs will be expected to justify the loading

At a later time, the FCC reaffirmed this decision<sup>28</sup> and stated in addition: 21

methodology they select as well as any deviations from it.<sup>27</sup>

- Dramatic rate variance alone does not establish that individual rates are 22 unreasonable.29 23
- 24 In fact, the FCC has broadly interpreted what constitutes a reasonable loading or markup.
- In a more recent decision, the FCC once again stated that uniform loadings are not 25

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<sup>&</sup>lt;sup>27</sup> FCC 91-186 Order, ¶ 44.

<sup>&</sup>lt;sup>28</sup> FCC, In the Matter of Open Network Architecture Tariffs of Bell Operating Companies, CC Docket No. 92-91, Order ("FCC 93-532 Order"), released December 15, 1993, ¶ 5.

required.<sup>30</sup> In that same Order, the FCC approved loadings as high as 4.8 times direct costs.

# Q. AS AN ECONOMIST, WHAT IS YOUR RECOMMENDATION TO THE

#### AUTHORITY ABOUT HOW IT SHOULD DETERMINE WHAT A REASONABLE

#### LOADING IS IN THIS CASE?

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A. For the purposes of this case, the Authority should be guided by economic efficiency and the effect of price changes on competition. From an economic perspective, welfare is maximized when demand considerations are taken into account to determine a proper markup above direct costs. It is a well-established economic principle that prices that are equal to their corresponding direct incremental costs result in economically efficient and welfare-maximizing outcomes. However, as I explained earlier in my testimony, due to considerable economies of scale and scope in telecommunications, <sup>31</sup> pricing at direct incremental cost leaves the regulated firm unable to recover its shared and common costs, often a significant portion of its total costs. As a result, markups above direct costs are needed.

Markups result in higher prices than would be the case without them. As a result, some demand may be suppressed—a condition called *allocative inefficiency*. This means that the Authority must strike a balance between the firm's (BST's) need to remain financially solvent by recovering all its costs and satisfying users' desire to get their services at the lowest possible prices (i.e., with minimum losses due to allocative inefficiency). Economic theory prescribes that such a balance be struck by setting markups in prices of different services in a way that minimizes consumer welfare losses due to allocative inefficiency.

(...continued)

Economies of scale arise when the average incremental cost of providing a service falls as volume increases. This condition is usually associated with a situation I described earlier for capital-intensive firms: high fixed capital costs alongside low variable or incremental costs. Economies of scope arise when different services share resources. The more services share resources, the cheaper it is for a single firm to provide them together than for each service to be provided separately by different firms. LECs like BST display both economies of scale (because of their cost structure and the high volumes they serve) and economies of scope (because a multitude of different services are provided out of a common network where many facilities are shared in use).



 $<sup>^{29}</sup>$  Id., ¶ 12.

<sup>&</sup>lt;sup>30</sup> FCC 97-392 Order, ¶ 13.

The best known rule for that purpose is Ramsey Pricing (or some variant of it) according to which the markup in a service price should be inversely related to the market elasticity of demand<sup>32</sup> for that service.<sup>33</sup> In this way, a relatively higher markup on those services that are the least elastic in demand results in the least consumption loss (and allocative inefficiency) to society while ensuring that the service provider remains financially solvent. At the prices that result from the Ramsey pricing rule, customers would purchase services in the same proportions as they would if all prices were set equal to marginal cost in the absence of scale and scope economies.

The logic of this optimal markup rule makes two things perfectly clear:

- 1. Because the elasticity of demand varies among services (e.g., from payphone to various non-payphone services), there is *absolutely no economic support* for the proposition that loadings or markups should be the same or uniform in every service provided by a LEC. As I documented earlier, the FCC has also acknowledged this important fact.
- 2. In a firm the size of BST, the non-traffic-sensitive and shared and common costs are often the dominant component of total cost. Therefore, it should not be surprising that markups in prices directed to recover those costs could—depending on market demand conditions—end up being several multiples of the underlying direct incremental costs. "High" markups are not, on their face, unreasonable. Besides, markups are also subject to the market sustainability test. Markups that are unjustifiably high would also not be able to withstand competitive pressures. At any rate, in an industry in which more (rather than less) competition and reliance on market forces are being encouraged, it may be impossible—and ultimately, unnecessary—for a single regulatory agency like

Ramsey pricing is named after its original proponent, economist Frank R. Ramsey. See his 1927 article, "A Contribution to the Theory of Taxation," *Economic Journal*, 37, at 47-61. Ramsey pricing has stood the test of time, particularly for application in regulated industries. There are now several more sophisticated pricing rules based on Ramsey pricing (e.g., multi-part pricing) that provide economically efficient outcomes. In fact, there are several instances of Ramsey-like pricing in the real world even in deregulated or competitive industries in which firms experience economies of scale and scope. For example, in the competitive airline industry, passengers who have the flexibility to plan weeks in advance are, in effect, contributing less to an airline's common costs (have lower markups in their prices) than business travelers who have less time to plan. Their ticket prices—even for the same class of service—may differ by several hundred dollars. That is just the way efficient markets work.



The elasticity of demand measures how sensitive customers are to changes in prices. The Law of Demand tells us that, other things being equal, price and demand move in opposite directions. However, a higher price may suppress demand a little, some, or a lot (and similarly with a lower price stimulating demand). When demand changes by *more* than the percentage change in price, then demand is called *elastic*. As the terminology suggests, the more elastic is demand, the more sensitive customers are to price changes (in either direction). When demand changes by *less* than the percentage change in price, then demand is *inelastic*. The polar case of the latter is *zero* elasticity when demand shows no sensitivity whatsoever to a price change.

1 the FCC or the Authority with limited informational resources to try to second-guess the market with its multitude of complex interactions. That is why the FCC, in its wisdom, 2 3 refrained—on several occasions—from spelling out precise boundaries on the markup that should be applied to each and every service that LECs provide. The "invisible 4 5 hand" of a dynamic marketplace can perform that task far better.

#### Q. WHAT SERVICES SHOULD BE CONSIDERED COMPARABLE TO PAYPHONE 6 ACCESS LINE SERVICES? 7

A. In order to judge the reasonableness of (the markups in) BST's prices for its payphone access line services, it would be appropriate for the Authority to examine the prices (and the markups therein) of comparable services. According to the FCC, the services most comparable to payphone services are information or enhanced services, namely, those sold in adjacent markets that, like the payphone market, are also unregulated.<sup>34</sup> Enhanced service providers ("ESPs"), like PSPs, compete with incumbent LECs in those adjacent markets. Therefore, the overhead loadings in the payphone access line services that PSPs purchase may be compared to the overhead loadings in the business exchange services purchased by ESPs. One case, in particular, that the Authority may consider: the markup in the price of BST's tariffed business access line and in the price of related usage service.

#### Q. ARE UNES COMPARABLE SERVICES TO PAYPHONE LINE SERVICES?

19 A. No. UNEs are not comparable to the payphone access line services in the sense explained above. PSPs do not compete with users of UNEs (generally, CLECs) in the provision of 20 local exchange services. Unlike those CLECs, PSPs are generally not telecommunications 21 carriers. Therefore, it is incorrect to suggest that the markup in payphone access line 22 service prices should be comparable to that in UNE prices. 23

#### O. DO YOU BELIEVE THAT THE MARKUPS IN BST'S RATES FOR PTAS AND 24 SMARTLINE® ARE REASONABLE?

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26 A. Yes. In light of BST's cost structure and the FCC's interpretation of what constitutes

<sup>&</sup>lt;sup>34</sup> NPRM, at ¶46, and First Payphone Order, at ¶145.



reasonable loadings (and, particularly, the absence of any requirements that loadings be uniform), I believe that the markups in BST's rates are reasonable.

# Q. MR. WOOD ARGUES [AT 22, 28-30] THAT CERTAIN ADJUSTMENTS MAY BE REQUIRED TO PAYPHONE ACCESS LINE RATES TO AVOID CREATING A SIGNIFICANT COMPETITIVE ADVANTAGE FOR BST. PLEASE RESPOND.

A. First, Mr. Wood's analysis errs in thinking that the absolute level of the price of the payphone access line service can be the source of any unfair competitive advantage to BST. As long as both BellSouth's own payphone operations (conducted through a structurally separate affiliate called BellSouth Public) and the PSPs that purchase BST's payphone access line services all pay the same tariffed rates for those services, under identical terms and conditions, there can be no discrimination and, therefore, no unfair competitive advantage to BellSouth Public or BST. That would remain true no matter how high the rates for PTAS and Smartline® went. It is true, however, that higher payphone access line service prices would result in higher payphone service prices and, therefore, suppress some consumer demand. But, even though high PTAS and Smartline<sup>®</sup> prices may restrict the size of the payphone market, they will most assuredly not skew the terms of competitive engagement between BellSouth Public and independent PSPs. It is noteworthy that by creating a separate affiliate like BellSouth Public, the parent corporation (BellSouth Corporation) has voluntarily erected a structural safeguard and mitigated the prospects for unfair competition among retail payphone service providers. Even the FCC does not require the erection of such a structural safeguard.<sup>35</sup>

Second, given that the absolute level of price of the payphone access line service is irrelevant to the efficiency of the competitive process for the final payphone service, what matters only is the *margin* between the price that BellSouth Public pays to BST for the payphone access line and the final retail payphone service price that BellSouth Public charges its payphone customers. As long as that margin is at least equal to the BellSouth

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<sup>&</sup>lt;sup>35</sup> FCC 96-388 Order, ¶ 199.

Public's incremental costs, competition for retail payphone service will be efficient. This principle was first established in another context, namely, the supply of interconnection or access as an essential wholesale service:

[T]he absolute level of the charge is irrelevant to the ability of the non-integrated rival to compete with the LEC. That ability depends, rather, on the relationship or margin between the interconnection charge—whether high or low, monopolistic or competitive—and the prices at which the LEC offers the competitive service.<sup>36</sup>

For the purposes of this case, the fact that both BellSouth Public and independent PSPs purchase the payphone access line service from the same tariff, coupled with TA 96's prohibition of subsidies to payphone operations, would ensure that retail payphone service competition will occur based on each carrier's relative efficiencies.

In general, shared and common cost recovery and profitability—while important regulatory concerns for determining just and reasonable rates—are irrelevant for determining whether an anti-competitive price squeeze exists.

#### Q. WHAT ELSE SHOULD THE AUTHORITY NOTE ABOUT THIS ISSUE?

A. I would urge the Authority to note two other salient points. First, the rates for the payphone access line services help or penalize BellSouth Public and its independent PSP competitors equally. If BST (or BellSouth Corporation) wanted to assist BellSouth Public by lowering the prices at which it purchases those services, the same lower prices would be automatically available to competing PSPs and no discrimination would be possible. That is why I believe that structural and non-structural safeguards in place protect against BST's payphone access line service rates being discriminatory.

Second, to some observers it may appear that the cost of those payphone services to BellSouth Public is just offsetting revenue to BST—both arms of the same parent corporation. In effect, therefore, a transaction would represent no real cost to BellSouth Corporation while, at the same time, any purchase by independent PSPs out of BST's tariffs

<sup>&</sup>lt;sup>36</sup> Alfred E. Kahn and William E. Taylor, "The Pricing of Inputs Sold to Competitors: A Comment," Yale Journal on Regulation, 11, Winter 1994, at 225-240.



would be a real cost to those PSPs that have no automatic revenue offset. Based on this line of reasoning, those observers may conclude that structural safeguards like separate affiliates do not really protect competitors from anti-competitive price squeeze. This reasoning is wrong.

The flaw in this reasoning is that BST (and BellSouth Corporation) will receive the same payphone access line price, *irrespective* of which payphone provider (BellSouth Public or an independent PSP) actually carries the call. If its affiliate, BellSouth Public, were to carry the call, then BellSouth Corporation would not charge the payphone access line price to an unaffiliated PSP. Thus, a BellSouth Corporation manager attempting to optimize corporate profits would have to recognize that charge as a *cost* to BellSouth Corporation whenever BellSouth Public carried the payphone call—not because of imputation rules or separate affiliate accounting formulas, but because the payphone access line service charge that would have gone into BellSouth's corporate pocket would no longer do so when its own affiliate carried the payphone call. Therefore, what may appear as a net revenue to BellSouth would turn out, under closer scrutiny, to really be a cost. Economists characterize such costs as opportunity costs. Failure to account for such costs can lead directly to the type of flawed reasoning described above.

# Q. DO YOU CONCLUDE THAT BST'S RATES FOR PTAS AND SMARTLINE® SERVICE SATISFY ALL REQUIREMENTS?

A. Yes. The requirements are that payphone access line service rates be (i) cost-based, (ii) consistent with the requirements of Section 276 of TA 96, specifically with respect to the removal of subsidies to payphone service from basic exchange and exchange access services, (iii) non-discriminatory, and (iv) able to pass the new services test that applies to price cap LECs. I conclude that the rates are based on cost. BST has employed the proper cost standard for services, namely, TSLRIC, and demonstrated that the rate for each service at least recovers that cost (so that it cannot be anti-competitive). I conclude that there is no evidence of any subsidy flows from BST's basic exchange or exchange access services to



- the payphone access line rates.<sup>37</sup> I conclude that the tariffed rates are not discriminatory
- because the services in question are available to BST's payphone affiliate, BellSouth Public,
- and to competing independent PSPs on exactly the same charges, terms, and conditions.
- 4 Moreover, I have explained why "high" rates for those services are not, on their face,
- 5 unreasonable or likely to favor BellSouth Public over its competitors. Finally, I conclude
- 6 that the rates pass the new services test within the parameters and guidelines provided
- 7 (particularly with respect to acceptable degrees of overhead loadings or markups) by the
- 8 FCC.

# 9 Q. DO YOU CONCLUDE THAT BST'S RATES FOR PTAS AND SMARTLINE® 10 SERVICE ARE FAIR AND REASONABLE?

- 11 A. Yes. My analysis demonstrates that the rates for those services are not predatory or cross-
- subsidized, i.e., they are not anti-competitive. The loadings in those rates are also
- reasonable, particularly because of the parity between those rates and rates for business
- local exchange service. It should be kept in mind that PTAS and Smartline® are business
- services and, therefore, unlike residential local exchange service, not subject to the public
- policy that keeps rates low, even below cost. Moreover, being services, they are not subject
- to the TELRIC pricing methodology employed for interconnection or UNEs (as in Docket
- 18 No. 97-01262).

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# Q. DO YOU CONCLUDE THAT BST'S RATES FOR PTAS AND SMARTLINE® SERVICE CONFORM TO EFFICIENT PRICING PRINCIPLES?

- 21 A. Yes. As I explained in my testimony, BST (like other LECs) has a cost structure that is
- 22 typical of capital-intensive firms: large fixed and shared and common costs in comparison
- to low direct incremental costs for the services they provide. Those firms experience
- economies of scale and scope as a result. For that reason, it is vitally important that prices
- be set to recover not merely the incremental costs but the substantial other costs as well.

<sup>&</sup>lt;sup>37</sup> As BellSouth witness Thomas Lohman testified in this proceeding, BellSouth has identified the subsidy to payphone service from intrastate services and removed it by filing Tariff No. TN97-033. In fact, Mr. Lohman testified that the amount actually removed—\$789,000—exceeded the correctly calculated subsidy by \$171,000.



- That, in turn, means the use of economically efficient markups in service prices. Because
- 2 uniform loadings or markups are not economically efficient as long as the demand
- 3 conditions differ across services, the Ramsey pricing rule (or some variant of it) should be
- 4 employed to include market-determined markups in individual service prices. Because of
- 5 the cost structure that BST has, overhead loadings or markups that are several multiples of
- direct incremental cost are not, on their face, unreasonable or inefficient.

# 7 Q. DO YOU CONCLUDE THAT BST'S RATES FOR PTAS AND SMARTLINE®

#### SERVICE PORTEND ILL FOR THE GROWTH OF THE PAYPHONE MARKET

#### 9 **IN TENNESSEE?**

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- 10 A. No. My analysis of Mr. Wood's claims shows that BST's payphone rates pose no imminent
- threat to the vitality of the payphone market in the state. In fact, historical subscribership
- trends show an increasing tendency (even among the lowest-income segment of the
- population) for households to subscribe to residential local exchange service. This does not
- automatically preclude payphone use, but it may signal a general drift toward more
- affordable privately-owned telephone service. My analysis reveals little to support the
- claim that PSPs are already losing a substantial amount of revenue on every payphone call
- that is currently made and that BST's rates will exacerbate that loss.

#### Q. WHAT IS YOUR OVERALL CONCLUSION?

- 19 A. My overall conclusion is that, contrary to Mr. Wood's testimony in this proceeding, BST's
- rates for payphone access line services, PTAS and Smartline®, have been constructed on the
- basis of sound economic principles and within FCC-provided guidelines and parameters.
- The Authority should not apply the TELRIC pricing methodology that was employed to
- determine rates for interconnection and UNEs in Docket No. 97-01262. BST's rates that
- are being examined in this proceeding are fair and reasonable and should give no cause for
- alarm about either the potential for further competition in Tennessee's payphone market or
- for the prospects of long-term survival of that market.

#### 27 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

28 A. Yes.



#### EXHIBIT WET-1

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Dr. Taylor received a B.A. magna cum laude in Economics from Harvard College, an M.A. in Statistics and a Ph.D. in Economics from the University of California at Berkeley. He has taught economics, statistics, and econometrics at Cornell and the Massachusetts Institute of Technology and was a post doctoral Research Fellow at the Center for Operations Research and Econometrics at the University of Louvain, Belgium.

At NERA, Dr. Taylor is a Senior Vice President, heads the Cambridge office and is Director of the Telecommunications Practice. He has worked primarily in the field of telecommunications economics on problems of state and federal regulatory reform, competition policy, terms and conditions for competitive parity in local competition, quantitative analysis of state and federal price cap and incentive regulation proposals, and antitrust problems in telecommunications markets. He has testified on telecommunications economics before numerous state regulatory authorities, the Federal Communications Commission, the Canadian Radio-Television and Telecommunications Commission, federal and state congressional committees and courts. Recently, he was chosen by the Mexican Federal Telecommunications Commission and Telmex to arbitrate the renewal of the Telmex price cap plan in Mexico. Other recent work includes studies of the competitive effects of major mergers among telecommunications firms and analyses of vertical integration and interconnection of telecommunications networks. He has appeared as a telecommunications commentator on PBS Radio and on The News Hour with Jim Lehrer.

He has published extensively in the areas of telecommunications policy related to access and in theoretical and applied econometrics. His articles have appeared in numerous telecommunications industry publications as well as *Econometrica*, the *American Economic* 

Review, the International Economic Review, the Journal of Econometrics, EconometricReviews, the Antitrust Law Journal, The Review of Industrial Organization, and The Encyclopedia of Statistical Sciences. He has served as a referee for these journals (and others) and the National Science Foundation and has served as an Associate Editor of the Journal of Econometrics.

#### **EDUCATION**

UNIVERSITY OF CALIFORNIA, BERKELEY Ph.D., Economics, 1974

UNIVERSITY OF CALIFORNIA, BERKELEY M.A., Statistics, 1970

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#### **EMPLOYMENT**

#### NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. (NERA)

1988- Senior Vice President, Office Head, Telecommunications Practice Director. Dr. Taylor has directed many studies applying economic and statistical reasoning to regulatory, antitrust and competitive issues in telecommunications markets. In the area of environmental regulation, he has studied statistical problems associated with measuring the level and rate of change of emissions.

#### BELL COMMUNICATIONS RESEARCH, INC. (Bellcore)

1983-1988 <u>Division Manager</u>, Economic Analysis, formerly Central Services Organization, formerly American Telephone and Telegraph Company. While at Bellcore, Dr. Taylor performed theoretical and quantitative research focusing on problems raised by the implementation of access charges. His work included design and implementation of demand response forecasting for interstate access demand, quantification of potential bypass liability, design of optimal nonlinear price schedules for access charges and theoretical and quantitative analysis of price cap regulation of access charges.

#### BELL TELEPHONE LABORATORIES

1975-1983 <u>Member, Technical Staff,</u> Economics Research Center. Performed basic research on theoretical and applied econometrics, focusing on small sample theory, panel data and simultaneous equations systems.

#### MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Fall 1977 <u>Visiting Associate Professor</u>, Department of Economics. Taught graduate courses in econometrics.

CENTER FOR OPERATIONS RESEARCH AND ECONOMETRICS

Université Catholique de Louvain, Belgium.

1974-1975 <u>Research Associate</u>. Performed post-doctoral research on finite sample econometric theory and on cost function estimation.

#### CORNELL UNIVERSITY

1972-1975 <u>Assistant Professor</u>, Department of Economics. (On leave 1974-1975.) Taught graduate and undergraduate courses on econometrics, microeconomic theory and principles.

#### **MISCELLANEOUS**

1985-1995	Associate Editor, <i>Journal of Econometrics</i> , North-Holland Publishing Company.
1990-	Board of Directors, National Economic Research Associates, Inc.
1995-	Board of Trustees, Treasurer, Episcopal Divinity School, Cambridge,
	Massachusetts

#### **PUBLICATIONS**

- "Smoothness Priors and Stochastic Prior Restrictions in Distributed Lag Estimation," *International Economic Review*, 15 (1974), pp. 803-804.
- "Prior Information on the Coefficients When the Disturbance Covariance Matrix is Unknown," *Econometrica*, 44 (1976), pp. 725-739.
- "Small Sample Properties of a Class of Two Stage Aitken Estimators," *Econometrica*, 45 (1977), pp. 497-508.
- "The Heteroscedastic Linear Model: Exact Finite Sample Results," *Econometrica*, 46 (1978), pp. 663-676.
- "Small Sample Considerations in Estimation from Panel Data," *Journal of Econometrics*, 13 (1980) pp. 203-223.
- "Comparing Specification Tests and Classical Tests," Bell Laboratories Economics Discussion Paper, 1980 (with J.A. Hausman).
- "Panel Data and Unobservable Individual Effects," *Econometrica*, 49 (1981), pp. 1377-1398 (with J.A. Hausman).
- "On the Efficiency of the Cochrane-Orcutt Estimator," *Journal of Econometrics*, 17 (1981), pp. 67-82.
- "A Generalized Specification Test," *Economics Letters*, 8 (1981), pp. 239-245 (with J.A. Hausman).
- "Identification in Linear Simultaneous Equations Models with Covariance Restrictions: An Instrumental Variables Interpretation," *Econometrica*, 51 (1983), pp. 1527-1549 (with J.A. Hausman).
- "On the Relevance of Finite Sample Distribution Theory," *Econometric Reviews*, 2 (1983), pp. 1-84.
- "Universal Service and the Access Charge Debate: Comment," in P.C. Mann and H.M. Trebing (editors), Changing Patterns in Regulation, Markets, and Technology: The Effect on Public Utility Pricing. The Institute of Public Utilities, Michigan State University, 1984.

- "Recovery of Local Telephone Plant Costs under the St. Louis Plan," in P.C. Mann and H.M. Trebing (editors), *Impact of Deregulation and Market Forces on Public Utilities*. The Institute of Public Utilities, Michigan State University, 1985.
- "Access Charges and Bypass: Some Approximate Magnitudes," in W.R. Cooke (editor), Proceedings of the Twelfth Annual Telecommunications Policy Research Conference, 1985.
- "Federal and State Issues in Non-Traffic Sensitive Cost Recovery," in *Proceedings from the Telecommunications Deregulation Forum*. Karl Eller Center, College of Business and Public Administration, University of Arizona, Tucson, Arizona, 1986.
- "Panel Data" in N.L. Johnson and S. Kotz (editors), *Encyclopedia of Statistical Sciences*. John Wiley & Sons, New York, 1986.
- "An Analysis of Tapered Access Charges for End Users," in P.C. Mann and H.M. Trebing (editors), *New Regulatory and Management Strategies in a Changing Market Environment*. The Institute of Public Utilities, Michigan State University, 1987 (with D.P. Heyman, J.M. Lazorchak, and D.S. Sibley).
- "Efficient Estimation and Identification of Simultaneous Equation Models with Covariance Restrictions," *Econometrica*, 55 (1987), pp. 849-874 (with J.A. Hausman and W.K. Newey).
- "Alternative NTS Recovery Mechanisms and Geographic Averaging of Toll Rates," in Proceedings of the Thirteenth Annual Rate Symposium: Pricing Electric, Gas, and Telecommunications Services. The Institute for the Study of Regulation, University of Missouri, Columbia, 1987.
- "Price Cap Regulation: Contrasting Approaches Taken at the Federal and State Level," in W. Bolter (editor), Federal/State Price-of-Service Regulation: Why, What and How?, Proceedings of the George Washington University Policy Symposium, December, 1987.
- "Local Exchange Pricing: Is There Any Hope?", in J. Alleman (editor), *Perspectives on the Telephone Industry: The Challenge of the Future*. Ballinger Publishing Company, Cambridge, Massachusetts, 1989.
- "Generic Costing and Pricing Problems in the New Network: How Should Costs be Defined and Assessed," in P.C. Mann and H.M. Trebing (editors) *New Regulatory Concepts, Issues, and Controversies.* The Institute of Public Utilities, Michigan State University, 1989.
- "Telephone Penetration and Universal Service in the 1980s," in B. Cole (editor), *Divestiture Five Years Later*. Columbia University Press, New York, New York, 1989 (with L.J. Perl).
- "Regulating Competition for IntraLATA Services," in *Telecommunications in a Competitive Environment*, Proceedings of the Third Biennial NERA Telecommunications Conference, 1989, pp. 35-50.
- "Costing Principles for Competitive Assessment," in *Telecommunications Costing in a Dynamic Environment*, Bellcore-Bell Canada Conference Proceedings, 1989 (with T.J. Tardiff).
- "Optional Tariffs for Access in the FCC's Price Cap Proposal," in M. Einhorn (ed.), *Price Caps and Incentive Regulation in the Telecommunications Industry*. Kluwer, 1991 (with D.P. Heyman and D.S. Sibley).
- "Alternative Measures of Cross-Subsidization," prepared for the Florida Workshop on Appropriate Methodologies for the Detection of Cross-Subsidies, June 8, 1991.
- "Predation and Multiproduct Firms: An Economic Appraisal of the Sievers-Albery Results," *Antitrust Law Journal*, 30 (1992), pp. 785-795.

- "Lessons for the Energy Industries from Deregulation in Telecommunications," *Proceedings of the 46th Annual Meeting of the Federal Energy Bar Association*, May 1992.
- "Efficient Price of Telecommunications Services: The State of the Debate," *Review of Industrial Organization*, Vol. 8, pp. 21-37, 1993.
- "Status and Results of Regulatory Reform in the U.S. Telecommunications Industry," in C.G. Stalon, *Regulatory Responses to Continuously Changing Industry Structures*. The Institute of Public Utilities, Michigan State University, 1992.
- "Post-Divestiture Long-Distance Competition in the United States," *American Economic Review*, Vol. 83, No. 2, May 1993 (with Lester D. Taylor). Reprinted in E. Bailey, J. Hower, and J. Pack, *The Political Economy of Privatization and Deregulation*. London: Edward Elgar, 1994.
- "Comment on 'Pricing of Inputs Sold to Competitors,' by W.J. Baumol and J.G. Sidak," *Yale Journal on Regulation*, Vol. 11, Issue 1, 1994, pp. 225-240 (with Alfred E. Kahn).
- "Comments on Economic Efficiency and Incentive Regulation," Chapter 7 in S. Globerman, W. Stanbury and T. Wilson, *The Future of Telecommunications Policy in Canada*. Toronto: Institute for Policy Analysis, University of Toronto, April 1995.
- "Revising Price Caps: The Next Generation of Incentive Regulation Plans," Chapter 2 in M.A. Crew (ed.) *Pricing and Regulatory Innovations under Increasing Competition*. Boston: Kluwer Academic Publishers, May 1996 (with T. Tardiff).
- "An Analysis of the State of Competition in Long-Distance Telephone Markets," *Journal of Regulatory Economics*, May 1997, pp. 227-256 (with J.D. Zona).
- "An Analysis of the Welfare Effects of Long Distance Market Entry by an Integrated Access and Long Distance Provider," *Journal of Regulatory Economics*, March 1998, pp. 183-196 (with Richard Schmalensee, J.D. Zona and Paul Hinton).
- "Market Power and Mergers in Telecommunications," *Proceedings of the Institute of Public Utilities*; 30<sup>th</sup> Annual Conference: Competition in Crisis: Where are Network Industries Heading? The Institute of Public Utilities, Michigan State University, 1999.
- "The Baby and the Bathwater: Utility Competition, But at What Price?," Public Utilities Fortnightly, Vol. 137, No.21, November 15, 1999, pp. 48-56 (with Anne S. Babineau and Matthew M. Weissman).

#### **TESTIMONIES**

#### **Access Charges**

Florida Public Service Commission (Docket No. 820537-TP), July 22, 1983.

Arkansas Public Service Commission (Docket No. 83-042-U), October 7, 1985.

Public Utility Commission of Texas (Docket No. 8585), December 18, 1989.

Mexican Secretariat of Communications and Transport, affidavit filed October 18, 1995 (with T. Tardiff).

Federal Communications Commission (CC Docket No. 96-98), affidavit July 8, 1996; ex parte letters filed July 22, 1996 and July 23, 1996.

Federal Communications Commission (CC Docket No. 96-262 et. al.) with Richard Schmalensee, January 29, 1997). Rebuttal February 14, 1997.

New York Public Service Commission (Case 94-C-0095 and 28425), Panel Testimony, May 8, 1997. Rebuttal Panel Testimony July 8, 1997.

Pennsylvania Public Utility Commission (Docket No. I-00960066), June 30, 1997. Rebuttal July 29, 1997. Surrebuttal August 27, 1997.

Connecticut Department of Public Utility Control (Docket No. 96-04-07), October 16, 1997.

Federal Communications Commission (ex parte CC Docket No. 96-262 et. al.), with Richard Schmalensee, January 21, 1998.

Federal Communications Commission (CCB/CPD 98-12), March 18, 1998.

Federal Communications Commission (CC Docket Nos. 96-262, 94-1, 97-250 and RM 9210), October 26, 1998. Reply November 9, 1998.

Federal Communications Commission (Docket No. 99-24), with Karl McDermott, January 20, 1999. Reply April 8, 1999.

Vermont Public Service Board (Docket No. 6167), May 20, 1999. Supplemental May 27, 1999.

Virginia State Corporation Commission, (Case No. PUC 000003), May 30, 2000.

#### **Incentive and Price Cap Regulation**

Federal Communications Commission (Docket No. 87-313), March 17, 1988.

Florida Public Service Commission (Docket No. 880069-TL), June 10, 1988.

Federal Communications Commission (Docket No. 87-313), August 18, 1988. Rebuttal November 18, 1988.

New Hampshire Public Service Commission (Docket 89-010), March 3, 1989.

Federal Communications Commission (Docket No. 87-313), June 9, 1989.

Federal Communications Commission (Docket No. 87-313), August 3, 1989. (2 filings)

New York State Public Service Commission (Case 28961 - Fifth Stage), September 15, 1989.

Georgia Public Service Commission (Docket No. 3882-U), September 29, 1989.

Federal Communications Commission (Docket 87-313), May 3, 1990.

Federal Communications Commission (Docket 87-313), June 8, 1990 (2 filings).

State of Maine Public Utilities Commission (Docket No. 89-397), June 15, 1990.

Montana Public Service Commission (Docket No. 90.8.46), October 4, 1990.

Federal Communications Commission (Docket 87-313), December 21, 1990.

Tennessee Public Service Commission, February 20, 1991.

Federal Communications Commission (Docket 87-313) with Alfred E. Kahn), June 12, 1991.

California Public Utilities Commission (Phase II of Case 90-07-037) with Timothy J. Tardiff, August 30, 1991. Supplemental testimony January 21, 1992.

Rhode Island Public Utilities Commission (Docket No. 1997), September 30, 1991.

Montana Public Service Commission (Docket No. 90.12.86), November 4, 1991. Additional testimony January 15, 1992.

Federal Communications Commission (Pacific Bell Tariff F.C.C. No. 128, Transmittal No. 1579) with T.J. Tardiff, April 15, 1992. Reply comments July 31, 1992.

California Public Utilities Commission (Docket No. I.87-11-033), with T.J. Tardiff, May 1, 1992.

Delaware Public Utilities Commission (Docket No. 33), June 22, 1992.

Florida Public Service Commission (Docket No. 920260-TL), December 18, 1992.

- California Public Utilities Commission (Docket No. I.87-11-033), with T.J. Tardiff, April 8, 1993, reply testimony May 7, 1993.
- Canadian Radio-Television and Telecommunications Commission (Docket No. 92-78), with T.J. Tardiff, April 13, 1993 (2 filings).
- Federal Communications Commission (Petition for Declaratory Ruling and Related Waivers to Establish a New Regulatory Model for the Ameritech Region), April 16, 1993. Reply Comments, July 12, 1993.
- Delaware Public Utilities Commission (Docket No. 33), June 1, 1993. Supplementary statement, June 7, 1993. Second supplementary statement, June 14, 1993.
- Vermont Public Service Board (Dockets 5700/5702), September 30, 1993. Rebuttal testimony July 5, 1994.
- Pennsylvania Public Utility Commission (Docket No. P-009350715), October 1, 1993. Rebuttal January 18, 1994.
- Massachusetts Department of Public Utilities (Docket No. D.P.U. 94-50), April 14, 1994. Rebuttal October 26, 1994.
- Federal Communications Commission (CC Docket 94-1), May 9, 1994. Reply June 29, 1994.
- Federal Communications Commission (CC Docket 94-1) with R. Schmalensee, May 9, 1994. Reply June 29, 1994.
- New York State Public Service Commission (Case 92-C-0665), panel testimony, October 3, 1994.
- State of Maine Public Utilities Commission (Docket Nos. 94-123/94-254), December 13, 1994. Rebuttal January 13, 1995.
- Canadian Radio-Television and Telecommunications Commission (Application of Teleglobe Canada for Review of the Regulatory Framework of Teleglobe Canada Inc.), December 21, 1994.
- Kentucky Public Service Commission, testimony re concerning telecommunications productivity growth and price cap plans, April 18, 1995.
- California Public Utilities Commission (U 1015 C), May 15, 1995. Rebuttal January 12, 1996. State of Connecticut, Department of Public Utility Control (DPUC Docket No. 95-03-01), June 19, 1995.
- Louisiana Public Service Commission (Docket No. U-17949, Subdocket E), July 24, 1995.
- California Public Utilities Commission (Investigation No. I.95-05-047), with R.L. Schmalensee and T.J. Tardiff, September 8, 1995. Reply September 18, 1995.
- Mississippi Public Service Commission (Docket No. 95-UA-313), October 13, 1995.
- Louisiana Public Service Commission (Docket No. U-20883), November 21, 1995.
- Federal Communications Commission (CC Docket No. 94-1), with T. Tardiff and C. Zarkadas, December 18, 1995. Reply March 1, 1996.
- North Carolina Utilities Commission (Docket No. P-7, Sub 825; P-10, Sub 479), February 9, 1996.
- Rhode Island Public Utilities Commission (Docket No. 2370), February 23, 1996. Rebuttal June 25, 1996.
- Pennsylvania Public Utility Commission (Docket No. P-00961024), April 15, 1996. Rebuttal July 19, 1996.
- Canadian Radio-Television and Telecommunications Commission, in response to CRTC Telecom Public Notice CRTC 96-8 (2 filings), June 10, 1996.
- Federal Communications Commission (CC Docket 96-262 et al.), ex parte March 1997.

Federal Communications Commission (CC Docket Nos. 93-193, Phase 1, Part 2, 94-65), May 19, 1997.

Vermont Public Service Board (Docket no. 6000), January 19, 1998.

Colorado Public Utilities Commission (Docket No. 97A-540T, January 30, 1998. Rebuttal May 14, 1998.

California Public Utilities Commission, affidavit on economic principles for updating Pacific Bell's price cap plan. Filed February 2, 1998.

California Public Utilities Commission, reply comments on Pacific proposal to eliminate vestiges of ROR regulation and inflation minus productivity factor formula/index, filed June 19, 1998.

Pennsylvania Public Utility Commission (Docket No. P-00981410), October 16, 1998. Rebuttal February 4, 1999.

Comisión Federal de Telecomunicaciones de México ("Cofetel"), "Economic Parameter Values in the Telmex Price Cap Plan," arbitrator's report regarding the renewal of the price cap plan for Telmex, February 15, 1999.

Kentucky Public Service Commission (Docket No. 98-292), April 5, 1999.

Federal Communications Commission (Docket Nos. 94-1, 96-26), January 7, 2000. Reply comments filed January 24, 2000, Ex parte comments filed May 5, 2000.

New Mexico Public Regulation Commission, direct testimony filed December 10, 1999. Arizona Corporation Commission (Docket No. T-01051B-99-105, filed August 21, 2000.

### Payphone

California Public Utilities Commission (Case 88-04-029), July 11, 1988.

Illinois Commerce Commission (Docket No. 88-0412), August 3, 1990. Surrebuttal December 9, 1991.

Michigan Public Service Commission (Case No. U-11756), October 9, 1998.

South Carolina Public Service Commission (Docket No. 97-124-C), December 7, 1998.

New Jersey Board of Public Utilities (OAL DOCKET Nos. PUCOT 11269-97N, PUCOT 11357-97N, PUCOT 01186-94N AND PUCOT 09917-98N), March 8, 1999. Surrebuttal June 21, 1999.

Louisiana Public Service Commission (Docket No. U-22632), July 17,2000.

#### **Economic Costing and Pricing Principles**

Florida Public Service Commission (Docket No. 820400-TP), June 25, 1986.

Delaware Public Service Commission (Docket No. 86-20, Phase II), March 31, 1989. Rebuttal November 17, 1989.

Delaware Public Service Commission (Docket No. 89-24T), August 17, 1990.

Florida Public Service Commission (Docket No. 900633-TL), May 9, 1991.

Maryland Public Service Commission (Case No. 8584, Phase II), December 15, 1994. Additional direct testimony May 5, 1995. Rebuttal testimony filed June 30, 1995.

- Canadian Radio-Television and Telecommunications Commission, Response to Interrogatory SRCI(CRTC) 1Nov94-906, "Economies of Scope in Telecommunications," January 31, 1995.
- Pennsylvania Public Utility Commission (Docket Nos. A-310203F0002, A-310213F0002, A-310236F0002 and A-310258F0002), March 21, 1996.
- State of Connecticut, Department of Public Utility Control (DPUC Docket No. 95-06-17), July 23, 1996.
- New Jersey Board of Public Utilities (Docket No. TX95120631), August 15, 1996. Rebuttal filed August 30, 1996.
- Florida Public Service Commission (Docket No. 980000-SP), September 24, 1998.
- Nebraska Public Service Commission, on behalf of U S WEST (Application No. C-1628), October 20, 1998. Reply November 20, 1998.
- Florida Public Service Commission (Docket No. 980000-SP), November 13, 1998.
- Wyoming Public Service Commission (Docket No. 70000-TR-99), April 26, 1999.
- New Mexico Public Regulation Commission (Utility Case No. 3147), December 6, 1999, rebuttal testimony filed December 28, 1999.
- New Mexico Public Regulation Commission (Case No. 3008, rebuttal testimony filed May 19, 2000.
- North Dakota Public Service Commission, (Case No. PU-314-99-119), May 30, 2000.
- New Mexico Public Regulation Commission (Case No. 3225, direct testimony filed August 18, 2000.

#### **Statistics**

- Arizona State Air Pollution Control Hearing Board (Docket No. A-90-02), affidavit December 7, 1990.
- Expert testimony: Michigan Circuit Court (Case No. 87-709234-CE and 87-709232-CE), Her Majesty the Queen, et al., v. Greater Detroit Resource Recovery Authority, et al., February, 1992.
- Expert testimony: United States District Court, Eastern District of New York, *Jancyn Manufacturing Corp. v. The County of Suffolk*, January 11, 1994.
- New York Public Service Commission (Case Nos. 93-C-0451 and 91-C-1249), July 23, 1996.
- New York Public Service Commission (Cases 95-C-0657, 94-C-0095, 91-C-1174 and 96-C-0036): panel testimony, March 18, 1998. Rebuttal June 3, 1998.

#### **InterLATA Toll Competition**

- Canadian Radio-Television and Telecommunications Commission (Docket No. 1990-73), November 30, 1990.
- Federal Communications Commission (Docket 91-141), August 6, 1991.
- Federal Communications Commission (CC Docket 92-141), July 10, 1992.
- Federal Communications Commission (In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorization Therefor) with A.E. Kahn, November 12, 1993.

- U.S. District Court for the District of Columbia *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company, Affidavit with A.E. Kahn, May 13, 1994.*
- U.S. Department of Justice, *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, August 25, 1994.
- Federal Communications ex parte filing in CC Docket No. 94-1, March 16, 1995.
- Federal Communications Commission (CC Docket No. 79-252) ex parte comments with J. Douglas Zona, April 1995.
- U.S. Department of Justice in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding Telefonos de Mexico's provision of interexchange telecommunications services within the United States, affidavit May 22, 1995.
- U.S. Department of Justice in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding provision of interexchange telecommunications services to customers with independent access to interexchange carriers, May 30, 1995.
- Expert testimony: *US WATS v. AT&T*, Confidential Report, August 22, 1995. Testimony October 18-20, 25-27, 30, 1995. Rebuttal testimony December 4, December 11, 1995.
- Expert testimony: United States District Court for the Northern District of Texas, Dallas Division, Civil Action 394CV-1088D, *Darren B. Swain, Inc. d/b/a U.S. Communications v. AT&T Corp.* Confidential Report, November 17, 1995.
- U.S. District Court, Southern District of New York, *Multi Communications Media Inc.*, v. *AT&T and Trevor Fischbach* (96 Civ. 2679 (MBM)), December 27, 1996.
- Federal Communications Commission (CC Docket Nos. 96-262 and 96-45), March 18, 1998.
- Subcommittee on Communications of the Senate Committee on Commerce, Science and Transportation, *Statement* and oral testimony regarding long distance competition and Section 271 of the Telecommunications Act of 1996, March 25, 1998.
- Federal Communications Commission (CC Docket No. 96-262), with P.S. Brandon, October 16, 1998.
- Federal Communications Commission (CC Docket No. 96-262) with P.S. Brandon, October 22, 1998.

#### **IntraLATA Toll Competition**

- New Jersey Board of Public Utilities (Docket No. TX90050349), December 6, 1990.
- New York Public Service Commission (Case No. 28425) with T.J. Tardiff, May 1, 1992.
- New Jersey Board of Regulatory Commissioners (Docket No. TX93060259), Affidavit October 1, 1993.
- New Jersey Board of Public Utilities (Docket Nos. TX90050349, TE92111047, TE93060211), April 7, 1994. Rebuttal April 25, 1994. Summary Affidavit and Technical Affidavit April 19, 1994.
- Delaware Public Utilities Commission (Docket No. 42), October 21, 1994.
- Pennsylvania Public Utility Commission (Docket No. I-940034), panel testimony, December 8, 1994. Reply February 23, 1995. Surrebuttal March 16, 1995.
- Public Service Commission of West Virginia (Case No. 94-1103-T-GI), March 24, 1995.

New Jersey Board of Public Utilities (Docket No. TX94090388), April 17, 1995. Rebuttal May 31, 1995.

New York Public Service Commission (Case 94-C-0017), August 1, 1995.

Rhode Island Public Service Commission (Docket No. 2252), November 17, 1995.

Massachusetts Department of Telecommunications and Energy (Docket No. 98-85), October 20, 1998.

#### **Local Competition**

Massachusetts Department of Public Utilities (Docket No. D.P.U. 94-185), May 19, 1995. Rebuttal August 23, 1995.

The Public Utilities Commission of Ohio (Case No. 94-1695-TP-ACE), May 24, 1995.

Vermont Public Service Board (Open Network Architecture Docket No. 5713), June 7, 1995. Rebuttal July 12, 1995.

New Jersey Board of Public Utilities (with Kenneth Gordon and Alfred E. Kahn), paper filed in connection with arbitration proceedings, August 9, 1996.

Florida Public Service Commission, "Local Telecommunications Competition: An Evaluation of a Proposal by the Communications Staff of the Florida Public Service Commission," with A. Banerjee, filed November 21, 1997.

Rhode Island Public Utilities Commission (Docket No. 2681), January 15, 1999.

Connecticut Department of Public Utility Control (Docket No. 95-06-17RE02), June 8, 1999.

#### Interconnection

Federal Communications Commission (Docket 91-141), September 20, 1991.

Maryland Public Service Commission (Case No. 8584) with A.E. Kahn, November 19, 1993. Rebuttal January 10, 1994. Surrebuttal January 24, 1994.

Maryland Public Service Commission (Case No. 8659), November 9, 1994.

Federal Communications Commission (CC Docket No. 95-185), affidavit March 4, 1996.

Federal Communications Commission (CC Docket No. 96-98), videotaped presentation on economic costs for interconnection, FCC Economic Open Forum, May 20, 1996.

#### Imputation

New Hampshire Public Service Commission (Docket DE 90-002), May 1, 1992. Reply testimony July 10, 1992. Rebuttal testimony August 21, 1992.

Canadian Radio-Television and Telecommunications Commission (Telecom Public Notice CRTC 95-36), August 18, 1995.

Massachusetts Department of Public Utilities (Docket No. D.P.U./D.T.E. 94-185-C), Affidavit February 6, 1998. Reply Affidavit February 19, 1998.

New Jersey Board of Public Utilities (BPU Docket No. TO97100808, OAL Docket No. PUCOT 11326-97N), July 8, 1998. Rebuttal September 18, 1998.

Vermont Public Service Board (Docket No. 6077), November 4, 1998.

# **Economic Depreciation**

Florida Public Service Commission (Docket No. 920385-TL), September 3, 1992.

- Louisiana Public Service Commission (Docket No. U-17949, Subdocket E), November 17, 1995. Surrebuttal, December 13, 1995, Further Surrebuttal, January 12, 1996.
- Federal Communications Commission (CC Docket No. 98-137), with A. Banerjee, November 23, 1998.

#### Spectrum

- Federal Communications Commission (ET Docket 92-100) with Richard Schmalensee, November 9, 1992.
- Federal Communications Commission (Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61), with R. Schmalensee, June 29, 1993.

#### Mergers

- U.S. District Court for the District of Columbia, *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, with A.E. Kahn, January 14, 1994.
- Vermont Public Service Board (Docket No. 5900), September 6, 1996.
- Maine Public Utilities Commission (Docket No. 96-388), September 6, 1996. Rebuttal October 30, 1996.
- New Hampshire Public Service Commission (Docket DE 96-220), October 10, 1996.
- Federal Communications Commission (Tracking No. 96-0221), with Richard Schmalensee, October 23, 1996.
- New York Public Service Commission (Case 96-C-0603), panel testimony, November 25, 1996. Reply December 12, 1996.
- Federal Communications Commission (CC Docket No. 97-211), with R. Schmalensee, affidavit March 13, 1998. Reply affidavit May 26, 1998.
- Connecticut Department of Public Utility Control, testimony regarding economic aspects of the SBC-SNET proposed change in control, filed June 1, 1998.
- Federal Communications Commission (CC Docket No. 98-141), with R. Schmalensee, July 21, 1998. Reply November 11, 1998.
- Alaskan Public Utilities Commission (Docket Nos. U-98-140/141/142 and U-98-173/174), February 2, 1999. Rebuttal March 24, 1999.
- Pennsylvania Public Utility Commission (Docket Nos. A-310200F0002, A-311350F0002, A-310222F0002, A-310291F0003), April 22, 1999.
- State Corporation Commission of Virginia, In re: Joint Petition of Bell Atlantic Corporation and GTE Corporation for approval of agreement and plan of merger, May 28, 1999.
- Ohio Public Utility Commission (Docket No. 98-1398-TP-AMT), June 16, 1999.
- Kentucky Public Service Commission (Docket No. 99-296), July 9, 1999.
- Colorado Public Utilities Commission (Docket No. 99A-407T), December 7, 1999.
- Iowa Utilities Board, on behalf of U S WEST Inc. & Qwest Communications Intl, Inc., rebuttal testimony regarding public interest effects of the proposed merger, filed December 23, 1999.

- Minnesota Public Utilities Commission (Docket No. P3009, 3052, 5096, 421, 3017/PA-99-1192), rebuttal affidavit regarding the effects of the proposed Qwest-U S WEST merger on economic welfare. Filed January 14, 2000.
- Washington Utilities and Transportation Commission (Docket No. UT-991358), rebuttal testimony regarding the effects of the proposed Qwest-U S WEST merger on economic welfare. Filed February 22, 2000.
- Montana Public Service Commission (Docket No. D99.8.200), rebuttal testimony regarding the effects of the proposed Qwest-U S WEST merger on economic welfare. Filed February 22, 2000.
- Utah Public Service Commission (Docket No. 99-049-41), rebuttal testimony regarding the effects of the proposed Qwest-U S WEST merger on economic welfare. Filed February 28, 2000.
- Minnesota Public Utilities Commission (Docket No. P3009, 3052, 5096, 421, 3017/PA-99-1192), rebuttal affidavit filed January 14, 2000.
- Minnesota Public Utilities Commission (Docket No. P3009, 3052, 5096, 421, 3017/PA-99-1192), direct testimony filed March 29, 2000.
- Arizona Corporation Commission (Docket No. T-01051B-99-0497), rebuttal testimony filed April 3, 2000.
- Wyoming Public Service Commission (Docket Nos. 74142-TA-99-16, 70000-TA-99-503, 74037-TA-99-8, 70034-TA-99-4, 74089-TA-99-9, 74029-TA-99-43, 74337-TA-99-2, Record No. 5134), rebuttal testimony filed April 4, 2000.

#### **Broadband Services**

- Federal Communications Commission (File Nos. W-P-C 6912 and 6966), August 5, 1994.
- Federal Communications Commission (File Nos. W-P-C 6982 and 6983), September 21, 1994.
- Federal Communications Commission, affidavit examining cost support for Asymmetric Digital Subscriber Loop (ADSL) video dialtone market trial, February 21, 1995.
- Federal Communications Commission, affidavit examining cost support for Bell Atlantic's video dialtone tariff, March 6, 1995.
- Federal Communications Commission (File Nos. W-P-C 7074), July 6, 1995.
- U.S. District Court for the Eastern District of Virginia (Alexandria Division), *United States Telephone Association, et al.*, v. Federal Communications Commission, et al. (Civil Action No. 95-533-A), with A.E. Kahn, affidavit October 30, 1995.
- Federal Communications Commission (CC Docket No. 95-145), October 26, 1995. Supplemental Affidavit December 21, 1995.
- Expert testimony: FreBon International Corp. vs. BA Corp. Civil Action, No. 94-324 (GK), regarding Defendants' Amended Expert Disclosure Statement, filed under seal February 15, 1996.
- Federal Communications Commission (CC Docket No. 96-46), ex parte affidavit, April 26, 1996.
- Federal Communications Commission (CC Docket No. 96-112), affidavit filed May 31, 1996.
- Federal Communications Commission (CC Docket No. 96-112), affidavit June 12, 1996.
- Federal Communications Commission (CC Docket No. 96-46), July 5, 1996.

Pennsylvania Public Utility Commission, "Promises Fulfilled; Bell Atlantic-Pennsylvania's Infrastructure Development," filed January 15, 1999 (with Charles J. Zarkadas, Agustin J. Ros, and Jaime C. d'Almeida).

#### Rate Rebalancing

- Canadian Radio-Television and Telecommunications Commission, Implementation of Regulatory Framework and Related Issues, Telecom Public Notices CRTC 94-52, 94-56 and 94-58, February 20, 1995.
- Pennsylvania Public Utility Commission (Docket No. R-00963550), April 26, 1996. Rebuttal July 5, 1996.
- Pennsylvania Public Utility Commission (Docket No. R-963550 C0006), August 30, 1996. Public Utilities Commission of Ohio (Case No. 96-899-TP-ALT), February 19, 1997.

#### **Universal Service**

- Louisiana Public Service Commission (Docket No. U-20883, Subdocket A), August 16, 1995. Tennessee Public Service Commission (Docket No. 95-02499), October 20, 1995. Rebuttal October 25, 1995. Supplementary direct October 30, 1995. Supplementary rebuttal November 3, 1995.
- Mississippi Public Service Commission (Docket No. 95-UA-358), January 17, 1996. Rebuttal February 28, 1996.
- Federal Communications Commission (CC Docket No. 96-45) with Kenneth Gordon, April 12, 1996.
- Federal Communications Commission (CC Docket No. 96-45) with Aniruddha Banerjee, August 9, 1996.
- Federal-State Joint Board (CC Docket No. 96-45), *Remarks on Proxy Cost Models*, videotape filed January 14, 1997.
- New Jersey Board of Public Utilities (Docket No. TX95120631), September 24, 1997. Rebuttal October 18, 1997.
- Pennsylvania Public Utility Commission (Docket No. I-00940035), October 22, 1997.
- Alabama Public Service Commission (Docket No. 25980), February 13, 1998.
- North Carolina Utilities Commission (Docket No. P-100, SUB 133g), February 16, 1998. Rebuttal April 13, 1998.
- Mississippi Public Service Commission (Docket No. 98-AD-035), February 23, 1998. Rebuttal March 6, 1998.
- Tennessee Regulatory Authority (Docket No. 97-00888), April 3, 1998. Rebuttal April 9, 1998.
- Florida Public Service Commission (Docket No. 980696-TP), September 2, 1998.

#### Classification of Services as Competitive

Maryland Public Service Commission (Case No. 8462), October 2, 1992.

State Corporation Commission of Virginia (Case No. PUC 950067), January 11, 1996.

Maryland Public Service Commission (Case No. 8715), March 14, 1996. Surrebuttal filed April 1, 1996.

Federal Communications Commission (File No. SCL-97-003), December 8, 1997.

- Pennsylvania Public Utility Commission (Docket No. P-00971307, February 11, 1998. Rebuttal February 18, 1998.
- State of Connecticut, Department of Public Utility Control (Docket No. 98-02-33), February 27, 1998.

The New Jersey Board of Public Utilities (Docket No. TO 99120934), May 18, 2000.

# Costing and Pricing Resold Services and Network Elements

Science, Technology and Energy Committee of the New Hampshire House of Representatives, "An Economic Perspective on New Hampshire Senate Bill 77," April 6, 1993.

Tennessee Public Service Commission (Docket No. 96-00067), May 24, 1996. Refiled with the Tennessee Regulatory Authority (Docket No. 96-00067), August 23, 1996.

New York Public Service Commission (Case Nos. 95-C-0657, 94-C-0095, 91-C-1174), May 31, 1996. Additional testimony June 4, 1996. Rebuttal July 15, 1996.

Louisiana Public Service Commission (Docket No. U-U-22020), August 30 1996. Rebuttal September 13, 1996.

Tennessee Regulatory Authority (Docket No. 96-01331), September 10, 1996. Rebuttal September 20, 1996.

New Jersey Board of Public Utilities (Docket No. TO96070519), September 18, 1996.

Pennsylvania Public Utility Commission (Docket No. A-310258F0002), September 23, 1996.

Massachusetts Department of Public Utilities (Docket Nos. D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94), September 27, 1996. Rebuttal October 16, 1996.

New Jersey Board of Public Utilities (Docket No. TX95120631), September 27, 1996.

New Hampshire Public Service Commission (Docket DE 96-252), October 1, 1996.

Massachusetts Department of Public Utilities (Docket Nos. D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94), October 11, 1996. Rebuttal October 30, 1996.

Federal Communications Commission (CC Docket No. 96-45), October 15, 1996.

New Hampshire Public Service Commission (Docket DE 96-252), October 23, 1996.

New Jersey Board of Public Utilities (Docket No. T096080621), November 7, 1996.

Alabama Public Service Commission (Docket No. 25677), November 26, 1996.

Delaware Public Utilities Commission, testimony re costs and pricing of interconnection and network elements, December 16,1996. Rebuttal February 11, 1997.

State Corporation Commission of Virginia, on behalf of Bell Atlantic-Virginia (Case No. PUC960), December 20,1996. Rebuttal June 10, 1997 (Case No. PUC970005).

Public Service Commission of Maryland (Case No. 8731-II), January 10, 1997. Rebuttal April 4, 1997.

Public Service Commission of the District of Columbia (Case No. 962), January 17, 1997. Rebuttal May 2, 1997.

Connecticut Department of Public Utilities (DPUC Docket No. 96-09-22), January 24, 1997.

Connecticut Department of Public Utilities (DPUC Docket No. 96-11-03), February 11, 1997.

Federal Communications Commission, response to FCC Staff Report on issues regarding Proxy Cost Models. Filed February 13, 1997.

Public Service Commission of West Virginia (Case Nos. 96-1516-T-PC, 96-1561-T-PC, 96-1009-T-PC, and 96-1533-T-T), February 13, 1997. Rebuttal February 20, 1997.

Public Utilities Commission of Ohio (Case No. 97-152-TP-ARB), April 2, 1997.

- Maine Public Utilities Commission (Docket No. 97-505), April 21, 1997. Rebuttal October 21, 1997.
- Vermont Public Service Board (Docket No. 5713), July 31, 1997. Rebuttal January 9, 1998. Surrebuttal February 26, 1998. Supplemental rebuttal March 4, 1998.
- State of Connecticut, Department of Public Utility Control (Docket Nos. 95-03-01,95-06-17 and 96-09-22), August 29, 1997. Rebuttal December 17, 1998.
- Alabama Public Service Commission (Docket No. 26029), September 12, 1997.
- Tennessee Regulatory Authority (Docket No. 97-01262), October 17, 1997.
- South Carolina Public Service Commission (Docket No. 97-374-C), November 25, 1997.
- Rhode Island Public Utilities Commission, direct testimony re costing and pricing principles for interconnection and unbundled network elements filed November 25, 1997.
- North Carolina Utilities Commission (Docket No. P-100, SUB 133d), December 15, 1997. Rebuttal March 9, 1998.
- Massachusetts Department of Public Utilities (Docket No. DTE 98-15), January 16, 1998.
- Mississippi Public Service Commission (Docket No. 97-AD-544, March 13, 1998.
- New Hampshire Public Service Commission (Docket No. 97-171, Phase II), March 13, 1998. Rebuttal April 17, 1998.
- Massachusetts Department of Telecommunications and Energy (D.P.U. 96-3/74, 96-75, 96-80/81, 96-83, & 96-94), April 29, 1998.
- Massachusetts Department of Telecommunications and Energy (Docket No. 85-15, Phase III, Part 1), August 31, 1998.
- Massachusetts Department of Telecommunications and Energy (Docket No. 98-15, Phase II), September 8, 1998.
- Rhode Island Public Utilities Commission (Docket No. 2681), September 18, 1998.
- Maryland Public Service Commission (Case No. 8786), November 16, 1998.
- New Hampshire Public Utilities Commission (Docket No. 99-018), April 7, 1999. Rebuttal April 23, 1999.
- Massachusetts Department of Telecommunications & Energy (Docket No. 94-185-E), July 26, 1999.
- The New Jersey Board of Public Utilities (Docket No. TO00060356), July 28, 2000.

#### **Bell Entry into InterLATA Markets**

- Federal Communications Commission (CC Docket No. 96-149), affidavit, August 15, 1996. Federal Communications Commission (Docket No. 96-149) with Paul B. Vasington, November 14, 1996.
- Georgia Public Service Commission (Docket No. 6863-U), January 3, 1997. Rebuttal February 24, 1997.
- Pennsylvania Public Utility Commission, statement regarding costs and benefits from Bell Atlantic entry into interLATA telecommunications markets, February 10, 1997. Rebuttal March 21, 1997.
- New York Public Service Commission, "Competitive Effects of Allowing NYNEX To Provide InterLATA Services Originating in New York State," with Harold Ware and Richard Schmalensee, February 18, 1997.

- Delaware Public Utilities Commission, statement regarding costs and benefits from Bell Atlantic entry into interLATA telecommunications markets, filed February 26, 1997. Rebuttal April 28, 1997.
- New Jersey Board of Public Utilities (Docket No. T097030166), March 3, 1997. Reply May 15, 1997.
- Federal Communications Commission (CC Docket 96-262 *et al.*), with Richard Schmalensee, Doug Zona and Paul Hinton, *ex parte* March 7, 1997.
- Public Service Commission of Maryland, statement regarding consumer benefits from Bell Atlantic's provision of interLATA service, filed March 14, 1997.
- Louisiana Public Service Commission, on behalf of BellSouth Long Distance, Inc. (Docket No. U-22252), March 14, 1997. Rebuttal May 2, 1997. Supplemental testimony May 27, 1997.
- Public Service Commission of West Virginia, economic analysis of issues regarding Bell Atlantic's entry into the interLATA long distance market. Filed March 31, 1997.
- South Carolina Public Service Commission (Docket No. 97-101-C), April 1, 1997. Rebuttal June 30, 1997.
- Kentucky Public Service Commission (Administrative Case No. 96-608), April 14, 1997. Rebuttal April 28, 1997. Supplemental rebuttal August 15, 1997.
- Federal Communications Commission (CC Docket No. 96-149), April 17, 1997.
- Maine Public Utilities Commission, affidavit regarding competitive effects of NYNEX entry into interLATA markets, with Kenneth Gordon, Richard Schmalensee and Harold Ware, filed May 27,1997.
- Alabama Public Service Commission (Docket No. 25835), June 18, 1997. Rebuttal August 8, 1997.
- North Carolina Utilities Commission (Docket No. P-55, Sub1022), August 5, 1997. Rebuttal September 15, 1997.
- Mississippi Public Service Commission (Docket No. 97-AD-0321), July 1, 1997. Rebuttal September 29, 1997.
- Federal Communications Commission, CC Docket No. 99-295. Filed September 29, 1999.

### Regulatory Reform

Federal Communications Commission (CC Docket No. 80-286), December 10, 1997.

Federal Communications Commission, In the Matter of United States Telephone Association Petition for Rulemaking—1998 Biennial Regulatory Review, with Robert W. Hahn, filed September 30, 1998.

# **Reciprocal Compensation**

- Massachusetts Department of Telecommunications and Energy (Docket No. 98-67), September 25, 1998.
- Washington Public Utilities Commission (Docket No. UT-990300), February 24, 1999. Rebuttal March 8, 1999.
- Colorado Public Utilities Commission (Docket No. 99A-001T), March 15, 1999.
- Massachusetts Department of Telecommunications and Energy (Docket No. D.T.E. 97-116-B), March 29, 1999.

North Carolina Utilities Commission (Docket No. P-500, Sub 10), July 9, 1999.

North Carolina Utilities Commission (Docket No. P-561, Sub 10), July 30, 1999.

Public Service Commission of South Carolina (Docket No. 1999-259-C), August 25, 1999.

Louisiana Public Service Commission (Docket No. U-24206), September 3, 1999.

Florida Public Service Commission (Docket No. 990750-TP), September 13, 1999.

New Mexico Public Regulation Commission (Case No. 3131), October 13, 1999.

Alabama Public Service Commission (Docket No. 27091), October 14, 1999.

Tennessee Regulatory Authority (Docket No. 99-00377), October 15, 1999.

Tennessee Regulatory Authority (Docket No. 99-00430), October 15, 1999.

Mississippi Arbitration Panel (Docket No. 99-AD421), October 20, 1999.

Kentucky Public Service Commission (Case No. 99-218), October 21, 1999.

Georgia Public Service Commission (Docket No. 10767-U), October 25, 1999.

Oregon Public Utility Commission (Arb. 154), November 5, 1999.

Federal Communications Commission, "An Economic and Policy Analysis of Efficient Intercarrier Compensation Mechanisms for ISP-Bound Traffic," (with Agustin Ros and Aniruddha Banerjee), *ex parte*, November 12, 1999.

Georgia Public Service Commission (Docket No. 10854-U), November 15, 1999, rebuttal testimony filed November 22, 1999.

Idaho Public Utilities Commission (Docket No. GST-T-99-1), November 22, 1999, rebuttal testimony filed December 2, 1999.

Texas Public Utility Commission (Docket No. 21982), March 15, 2000, rebuttal testimony filed March 31, 2000.

Arizona Corporation Commission (Docket Nos. T-02432B-00-0026, T-01051B-00-0026), March 27, 2000, rebuttal testimony filed April 3, 2000.

Colorado Public Utilities Commission (Docket No. 00B-011T), direct testimony filed March 28, 2000.

Pennsylvania Public Utility Commission (Docket No. A-310620F0002), April 14, 2000, rebuttal testimony filed April 21, 2000.

Delaware Public Service Commission (PSC Docket No. 00-205), filed April 25, 2000.

Virginia State Corporation Commission, filed April 25, 2000.

The New Jersey Board of Public Utilities (Docket No. TO 00031063) Direct testimony filed April 28, 2000, rebuttal testimony filed May 5, 2000.

Washington Utilities and Transportation Commission (Docket No. UT-003006). Filed April 26, 2000. Rebuttal testimony filed May 10, 2000. Surrebuttal testimony filed May 26, 2000.

The New Jersey Board of Public Utilities (Docket No. TO 00031063). Filed April 28, 2000. Rebuttal testimony filed May 5, 2000.

Federal Communications Commission, (CC Docket Nos. 96-98, 95-185, WT Docket No. 97-207), "Reciprocal Compensation for CMRS Providers," June 13, 2000 (with Charles Jackson).

Colorado Public Utilities Commission (Docket No. 00B-103T), June 19, 2000.

Federal Communications Commission, In the Matter the Remand of the Commission's Reciprocal Compensation Declaratory Ruling by the U.S. Court of Appeals for the D.C. Circuit (CC Docket Nos. 96-98, 99-68), July 21, 2000. Reply August 4, 2000.

Montana Department of Public Service Regulation (Docket No. D2000.6.89), July 24, 2000. Nebraska Public Service Commission (Docket C-2328), Rebuttal filed September 25, 2000.

#### **Contract Services**

Superior Court Department of the Trial Court (Civil Action No. 95-6363F), affidavit, July 1996.

Connecticut Department of Public Utilities (Docket No. 99-03-17), June 18, 1999.

### Miscellaneous

New Mexico Public Regulation Commission (Utility Case No. 3147), December 6, 1999. New Mexico Public Regulation Commission (Utility Case No. 3008), May 19, 2000. Georgia Public Service Commission (Docket No. 7892-U), June 27, 2000.

October, 2000

# **AFFIDAVIT**

STATE OF:

**MASSACHUSETTS** 

COUNTY OF:

**MIDDLESEX** 

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared William E. Taylor, Ph.D., Senior Vice President-National Economic Research Associates, Inc., who, being by me first duly sworn deposed and said that:

He is appearing as a witness before the Tennessee Regulatory Authority in Docket No. 97-00409 on behalf of BellSouth Telecommunications, Inc., and if present before the Authority and duly sworn, his testimony would be set forth in the annexed testimony consisting of 24 pages and 4 exhibit(s).

William E. Taylor

Sworn to and subscribed before me this 25 day of September, 2000

NOTARY PUBLIC